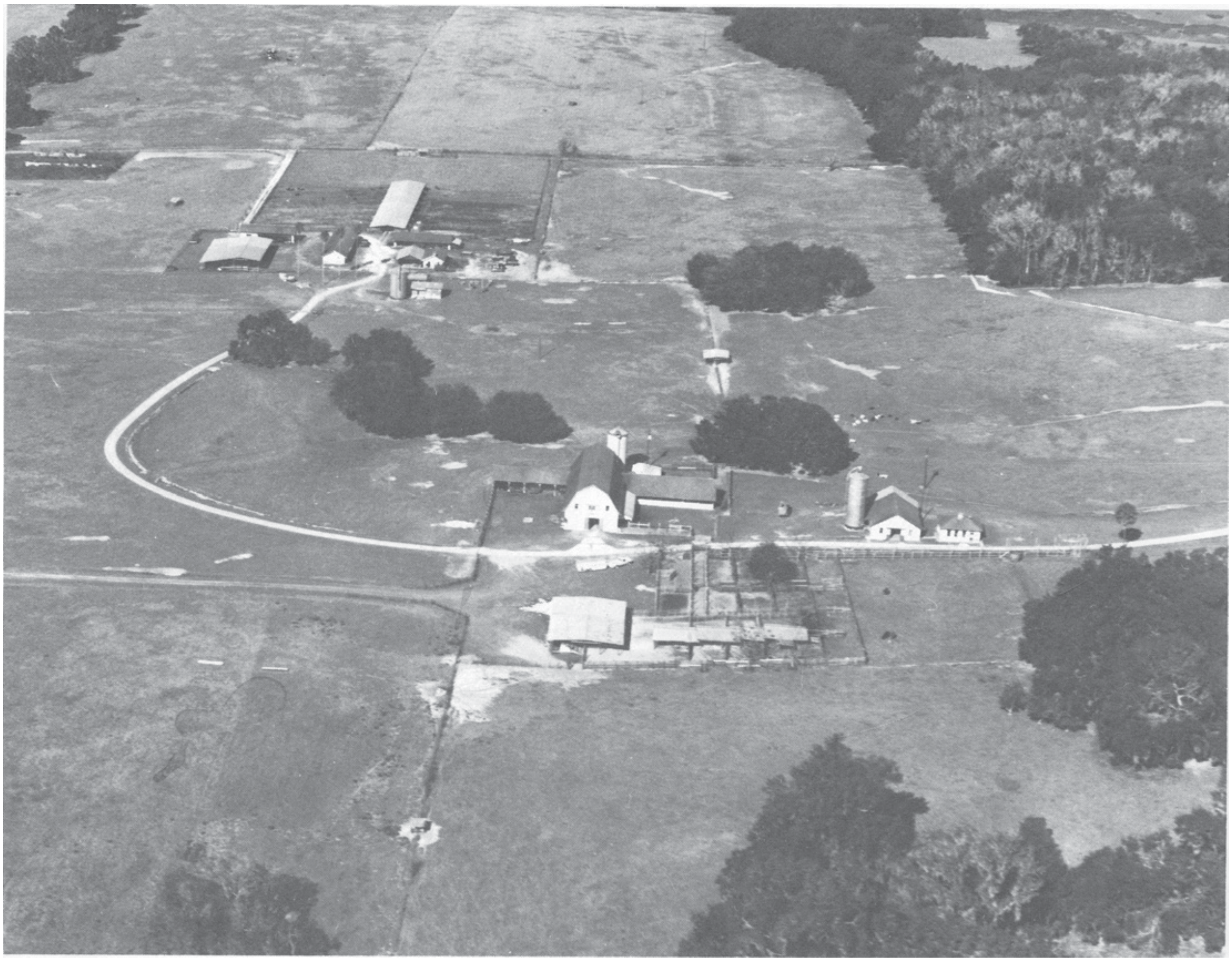
SOIL SURVEY OF

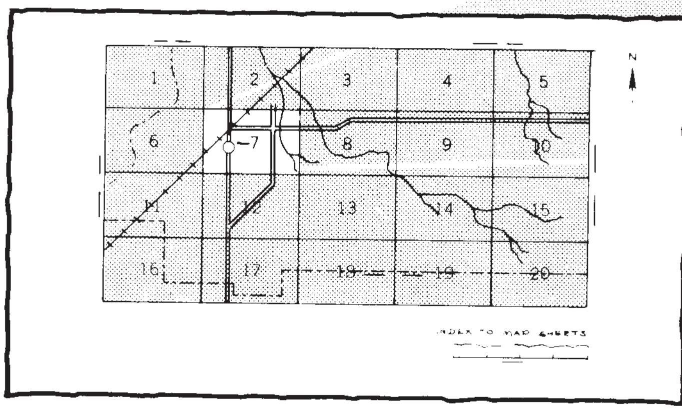
Hernando County, Florida

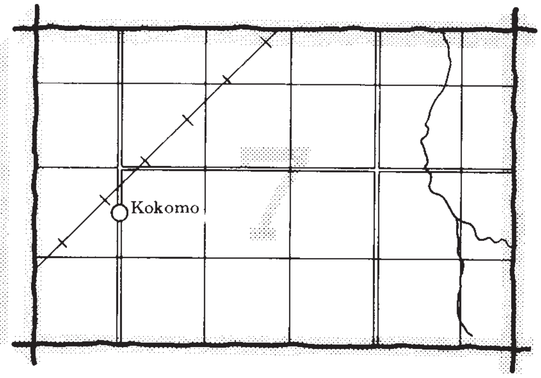


United States Department of Agriculture
Soil Conservation Service
In cooperation with
University of Florida
Institute of Food and Agricultural Sciences
Agricultural Experiment Stations
Soil Science Department

HOW TO USE

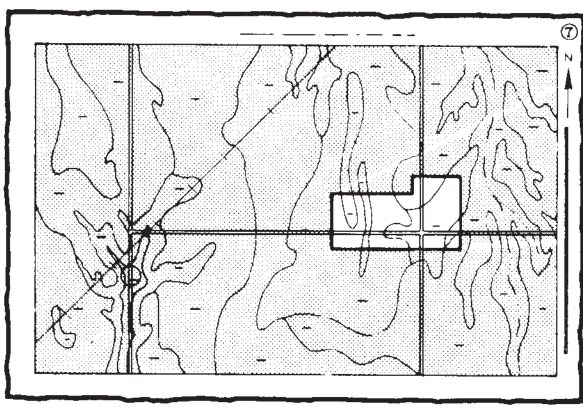
1. Locate your area of interest on the ''Index to Map Sheets'' (the last page of this publication).

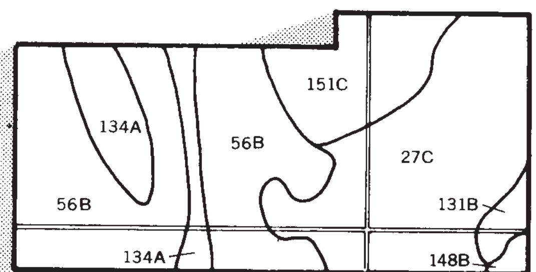




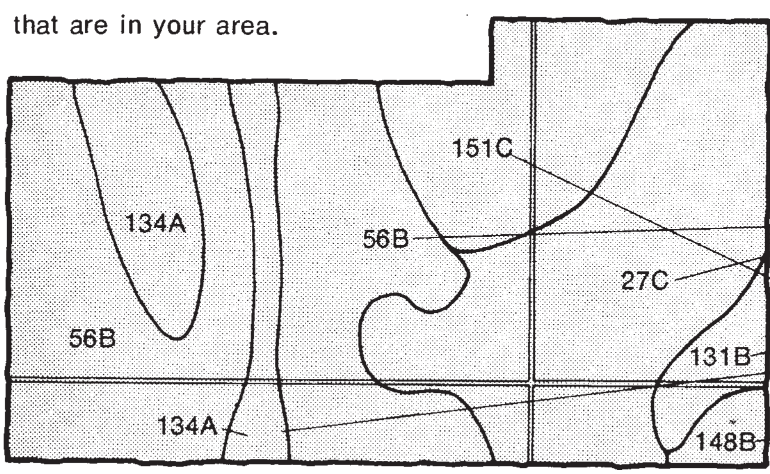
2. Note the number of the map sheet and turn to that sheet.

3. Locate your area of interest on the map sheet.





4. List the mapping unit symbols that are in your area.

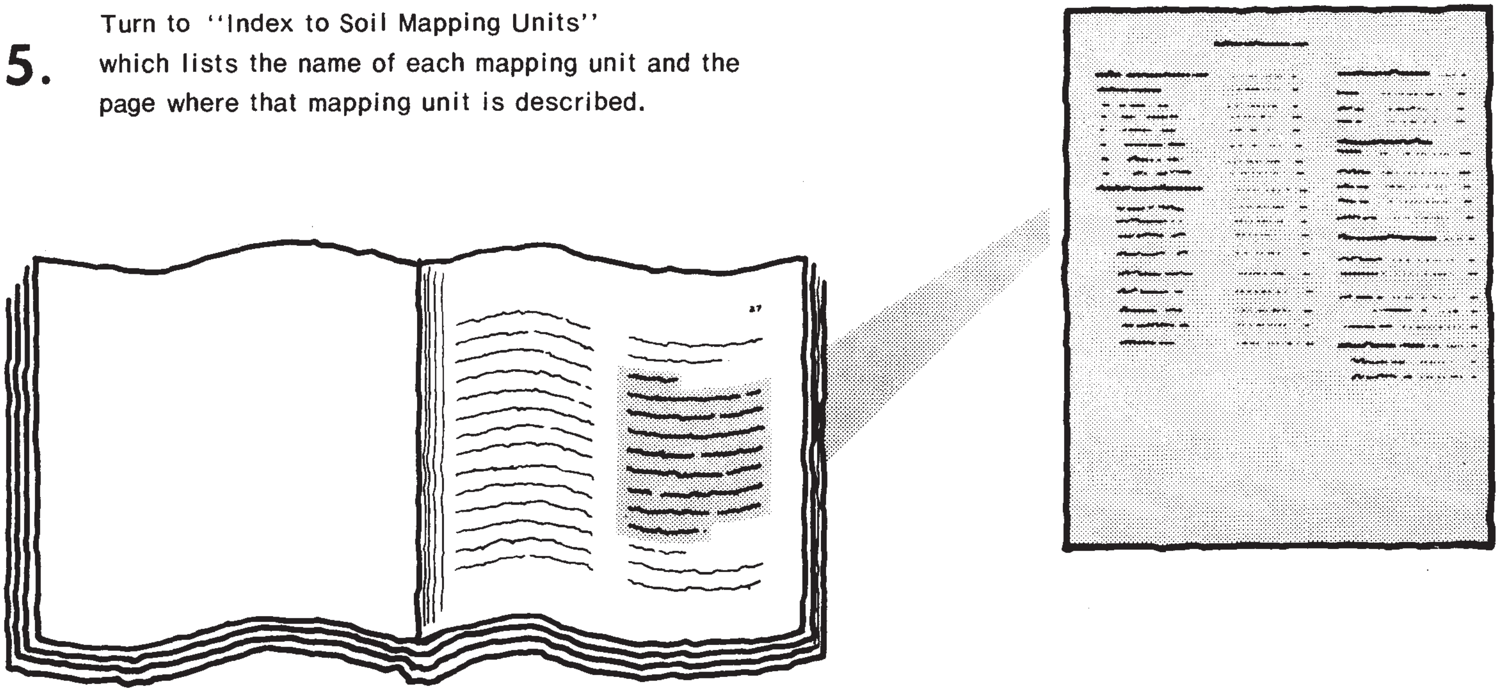


Symbols

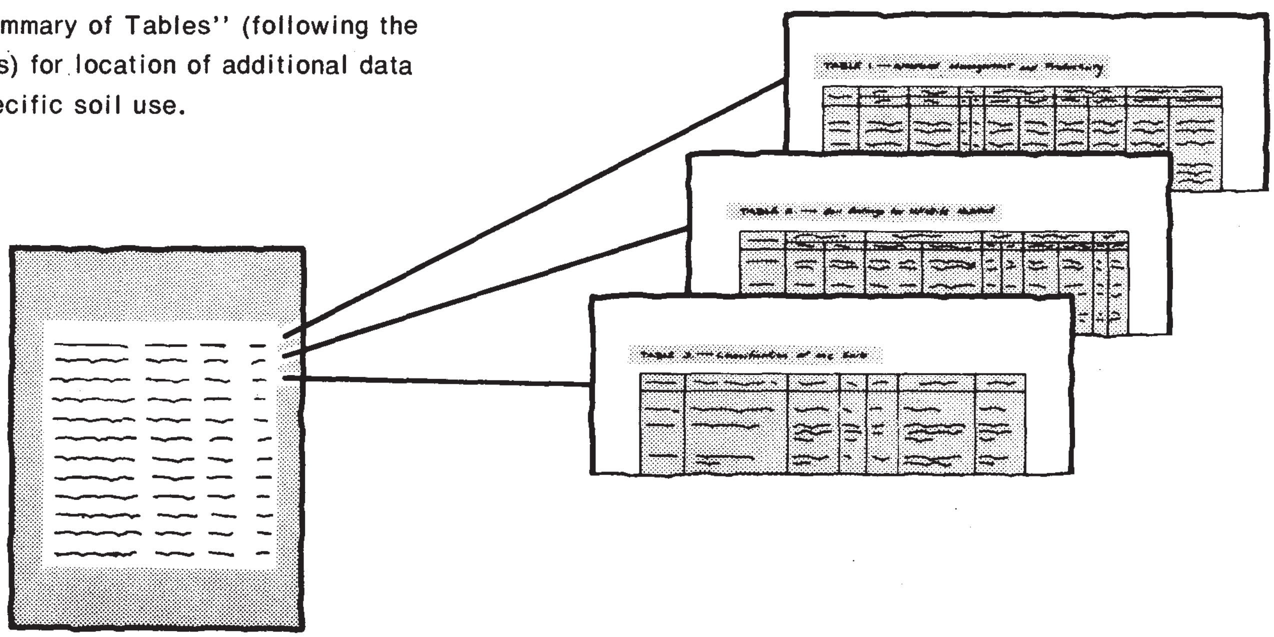
27C
56B
131B
134A
148B
151C

THIS SOIL SURVEY

5. Turn to "Index to Soil Mapping Units" which lists the name of each mapping unit and the page where that mapping unit is described.



6. See "Summary of Tables" (following the Contents) for location of additional data on a specific soil use.



7. Consult "Contents" for parts of the publication that will meet your specific needs. This survey contains useful information for farmers or ranchers, foresters or agronomists; for planners, community decision makers, engineers, developers, builders, or homebuyers; for conservationists, recreationists, teachers, or students; for specialists in wildlife management, waste disposal, or pollution control.

This is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and agencies of the States, usually the Agricultural Experiment Stations. In some surveys, other Federal and local agencies also contribute. The Soil Conservation Service has leadership for the Federal part of the National Cooperative Soil Survey. In line with Department of Agriculture policies, benefits of this program are available to all, regardless of race, color, national origin, sex, religion, marital status, or age.

Major fieldwork for this soil survey was completed in the period 1972-75. Soil names and descriptions were approved in 1975. Unless otherwise indicated, statements in the publication refer to conditions in the survey area in 1975. This survey was made cooperatively by the Soil Conservation Service; the University of Florida, Institute of Food and Agricultural Sciences; Agricultural Experiment Stations, Soil Science Department; and the Hernando County Board of Commissioners. It is part of the technical assistance furnished to the Gulf Soil and Water Conservation District.

Soil maps in this survey may be copied without permission, but any enlargement of these maps could cause misunderstanding of the detail of mapping and result in erroneous interpretations. Enlarged maps do not show small areas of contrasting soils that could have been shown at a larger mapping scale.

Cover: This is the USDA Beef Cattle Research Station at Chinsegut Hill. The dominant soil is Arredondo fine sand, 0 to 5 percent slopes. This soil produces good pasture when it is well managed.

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Issued July 1977

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Foreword

The Soil Survey of Hernando County, Florida contains much information useful in any land-planning program. Of prime importance are the predictions of soil behavior for selected land uses. Also highlighted are limitations or hazards to land uses that are inherent in the soil, improvements needed to overcome these limitations, and the impact that selected land uses will have on the environment.

This soil survey has been prepared for many different users. Farmers, ranchers, foresters, and agronomists can use it to determine the potential of the soil and the management practices required for food and fiber production. Planners, community officials, engineers, developers, builders, and homebuyers can use it to plan land use, select sites for construction, develop soil resources, or identify any special practices that may be needed to insure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the soil survey to help them understand, protect, and enhance the environment.

Many people assume that soils are all more or less alike. They are unaware that great differences in soil properties can occur even within short distances. Soils may be seasonally wet or subject to flooding. They may be shallow to bedrock. They may be too unstable to be used as a foundation for buildings or roads. Very clayey or wet soils are poorly suited to septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map; the location of each kind of soil is shown on detailed soil maps. Each kind of soil in the survey area is described, and much information is given about each soil for specific uses. Additional information or assistance in using this publication can be obtained from the local office of the Soil Conservation Service or the Cooperative Extension Service.

We believe that this soil survey can help bring us a better environment and a better life. Its widespread use can greatly assist us in the conservation, development, and productive use of our soil, water, and other resources.

William E. Austin

State Conservationist
Soil Conservation Service

Location of Hernando County in Florida.

SOIL SURVEY OF HERNANDO COUNTY, FLORIDA

By Adam G. Hyde, Lloyd Law, Jr., Robert L. Weatherspoon, Melvin D. Cheyney, and Joseph J. Eckenrode, Soil Conservation Service

United States Department of Agriculture, Soil Conservation Service, in cooperation with the University of Florida, Institute of Food and Agricultural Sciences, Agricultural Experiment Stations, Soil Science Department

HERNANDO COUNTY is on the Gulf of Mexico near the middle of Florida (see map on facing page). It is bordered on the north by Citrus County, on the east by Sumter County, on the south by Pasco County, and on the west by the Gulf of Mexico. The Withlacoochee River separates Hernando and Sumter Counties.

The land area of the county is 312,320 acres, or 494 square miles. About 45,123 acres, or 70.5 square miles, are state or federally owned. Most of the federally owned land is in the Chassahowitzka and Chinsegut National Wildlife Refuges. Most of the state-owned land is in the Withlacoochee State Forest.

The county is about 18 miles long; it is 38 miles wide at its widest part. Brooksville, the county seat, is in about the center of the county. Approximate distances by air from Brooksville to principal cities in the State are shown on the map on the facing page.

The mining of limestone is the largest single nonagricultural industry in the county. Six limestone mines produce more than one-half million tons of rock annually. This rock is used in road construction throughout the State as well as for plastering, soil conditioning, and gravel for roofing, concrete, and other uses. Other industries include lumber, electronic manufacturing, chemicals, dairy and poultry products and processing, and explosives.

General nature of the county

Soil is intimately associated with its environment. The interaction of all soil forming factors determines the character of the soil and its overall behavior for a given use. In this section, other environmental and cultural factors that affect the use and management of soils in Hernando County are discussed. The factors discussed are climate; history and development; physiography, relief, and drainage; water resources; farming; transportation; and recreation.

Climate

The climate of Hernando County is characterized by long, warm, and relatively humid summers and mild, dry winters. Rainfall is heaviest from June through September; about 55 percent of the annual total falls during this period in an average year. The other 45 percent is more or less evenly distributed throughout the remainder of the year. Summarized climatic data (*13*, *14*), based on records collected at the Beef Cattle Research Station, Chinsegut Hill, are shown in table 1.

The Gulf of Mexico and the numerous inland lakes have a moderating effect on both summer and winter temperatures. Summer temperatures are fairly uniform from year to year and show little day-to-day variation. Although afternoon temperatures reach 90 degrees F or higher with great regularity during the warmest months, temperatures of 100 degrees F or higher seldom occur. Winter temperatures display considerable day-to-day variation, largely because of periodic invasions of cold, dry air masses from the north.

Frost or freezing temperatures in the colder sections of the county occur at least once every winter and on an average of four times a year. Temperatures as low as 20 degrees F are rare. Winter cold spells are usually short and seldom last more than 2 or 3 days. Freeze data shown in table 2 were taken at the Beef Cattle Research Station, Chinsegut Hill, and are representative for the area.

Most summer rainfall comes from afternoon or early evening local thundershowers. During June, July, August, and September, measurable rainfall can be expected on about half the days. Summer showers are sometimes heavy, with 2 or 3 inches of rain falling in an hour or two. Daylong rains in summer are rare and are almost always associated with a tropical storm. Winter and spring rains are usually associated with large-scale continental weather developments and are of longer duration. Some last for 24 hours or longer. The long-duration rains are usually not so intense as the thundershower type rains, but occasionally they do release relatively large amounts of rainfall over large areas. A 24-hour rainfall of 7 inches or more falls about 1 year in 10.

Hail is observed at irregular intervals in thundershowers. The individual pieces of hail are usually small and seldom cause much damage. Snow is very rare in the area, and when it falls, it melts as it hits the ground.

Tropical storms can affect the area at any time during the period from early June through mid-November. These storms diminish in intensity quite rapidly as they move inland. The chance of winds reaching hurricane force (74 mi/h or greater) in Hernando County in any given year is about one in 100. However, copious rains associated with these storms may cause considerable damage to crops and fields.

Extended periods of dry weather or droughts can occur in any season, but they are most common in spring and fall. By definition, a drought occurs when the soil does not have enough available water for plants to maintain normal growth. Consequently, within a normal year there are periods when rainfall does not supply as much water as is needed by most crops. Therefore, supplementary irrigation is needed in most years for maximum crop production. Droughts or dry periods in April and May, although generally of shorter duration than those in the fall, tend to be intensified by higher temperatures.

Prevailing winds in the area are generally southerly in spring and summer and northerly in fall and winter. Windspeeds during the day usually range between 8 and 15 mi/h, but nearly always drop below 8 mi/h at night.

History and development

JAMES H. JONES, County Historian, Hernando County, prepared this section.

Hernando County was established by the Territorial Legislature on February 24, 1843. It was severed from Alachua County, which had been established on December 29, 1824, and from Hillsborough County. When it was first established, it embraced an area that included what are now Pasco and Citrus Counties. These counties separated from Hernando County on June 2, 1887.

The county was named in honor of Hernando DeSoto when it was established, and the following year the name was changed to Benton in honor of Senator Thomas Hart Benton of Missouri. Benton was the sponsor of the Armed Occupation Act. After six years, the name was changed back to Hernando.

The earliest inhabitants of the area around Brooksville appear to have been a band of Eufaula Creek Indians, and they called this territory Chokko Chatee.

The Treaty of 1823 at Moultrie Creek near St. Augustine provided for a band of Seminole Indians to move into this area, and in 1824 Chief Black Dirt and his band of Seminoles moved in.

Settlers did not come into this area until the passage of the Armed Occupation Act of 1842. With the homestead provision in the Act of 1842, they streamed in from all over the southeast.

The Armed Occupation Act provided that 160 acres of land would be given to any settler who would move into the area and cultivate as much as 5 acres.

The original name of the present town of Brooksville when it was settled by the white men was Melendez. Pierceville was established in the early 1850's just 2 miles south of Melendez. In 1870 the two towns merged and became Brooksville.

There were at least three military forts in Hernando County: Fort Cross, Fort Dade, and Fort Taylor.

Physiography, relief, and drainage

Hernando County can be divided into four general parts based on physiography. These are the coastal swamps, the Gulf Coastal lowlands, Brooksville Ridge, and Tsola Apopka Plain (*15*).

The coastal swamp area parallels the Gulf Coast and extends inland 4 to 6 miles. This area includes both the tidal marshes and Chassahowitzka and Withlacoochee Swamps. Elevations range from sea level in the tidal marsh to about 10 feet in the swamp areas. The soils of the tidal marshes and in the swamps are very poorly drained organic and mineral soils, and the marshes are subject to daily flooding by normal tides. The natural vegetation is predominantly mixed hardwoods. A large portion of the coastal swamp area is underlain by limestone. Little development has taken place in this area, but a few places along the coast have been developed for urban uses.

The Gulf Coastal Lowlands lies between the coastal swamp and Brooksville Ridge. This area is not continuous throughout the length of the county and ranges from less than a mile to about 2 miles in width. Elevations are mostly between about 10 and 50 feet above sea level. The area consists mostly of pine and palmetto flatwoods with numerous small ponds in lesser areas of broad, grassy sloughs. The soils are predominantly nearly level, wet, and sandy. The sandy subsoil is weakly cemented with organic matter.

The Brooksville Ridge occupies most of the county. It extends easterly from about U.S. Highway 19 to U.S. Highway 301. The Brooksville Ridge can be divided into two parts. The rolling, deep, sandy ridges on the western and eastern edges are dominated by deep, sandy soils with numerous depressions and sinks. Elevations range from about 75 to 100 feet in the western part and from about 50 to 100 feet in the eastern part. Natural vegetation on these deep, sandy soils is mostly turkey oak, bluejack oak, post oak, scrub live oak, scattered longleaf pine, and an understory of pineland three-awn. In places there are small ponds with sandy bottoms. The central part of the Brooksville Ridge ranges in elevation from about 100 feet to more than 200 feet. This rolling area consists of poorly drained to well drained, sandy to clayey soils. Natural vegetation consists of pine and hardwoods. Much of this area is cleared and used for crops and pastures.

The Tsola Apopka Plain is in the eastern part of the county, generally east of U.S. Highway 301. Elevations on this plain range from about 75 to 85 feet above sea level.

This area consists mostly of pine and palmetto flatwoods and numerous ponds and depressions and broad grassy sloughs. The soils are predominantly nearly level, wet, and sandy and have a loamy subsoil or a sandy subsoil weakly cemented with organic matter. Most of this area has remained in natural vegetation and is used primarily for woodland and wildlife.

There is no well defined surface drainage system in Hernando County with the exception of the Withlacoochee River in the eastern part and the Weekiwachee River in the western part. Most of the county is drained through numerous sinks, closed depressions, lakes, and grassy prairies.

Water resources

The Withlacoochee, Little Withlacoochee, and Weekiwachee Rivers are the major permanent streams and surface drainage systems in the county. There are numerous small streams and creeks along the coast.

There are several fresh water springs in Hernando County. The most noted is Weekiwachee Springs, a very popular tourist attraction about 12 miles west of Brooksville. It boils up from a depth of about 145 feet into a basin about 130 feet in diameter. The temperature is about 78 degrees F, and the rated flow is 176 cubic feet per second. The caverns that supply it doubtless ramify through the Ocala Limestone, although the orifice presumably penetrates the Suwannee Limestone (*5*). The spring feeds the Weekiwachee River, which flows into the Gulf of Mexico about 12 miles away. The Floridian Aquifer is the primary source of all underground water in central Florida. The shallow aquifers that overlie the Floridian Aquifer, including the surficial sands and the upper region of the Hawthorn Formation, are secondary sources. There are about 129 freshwater lakes scattered throughout the county. The largest of these is Bystre Lake, a lake of about 307 acres.

The water supply for the towns, communities, and individual homes within the county is from wells. The wells are dug into the underlying limestone to the aquifer and then cased to the limestone. Depth of the wells varies, but averages about 80 to 100 feet.

Farming

Farming has always been important to the economy of Hernando County. Farming is diversified largely because of the variety of suitable soils. Although the land-use patterns are changing, farmers have been able to increase yields both by improved management and by slightly increasing the farmed acreage.

The most common farm crops grown in the county are corn and soybeans. Special crops such as citrus and watermelons are also grown extensively. Other commonly grown vegetables are squash, eggplant, okra, cantaloupes, snapbeans, and cucumbers, but these are not grown on a large commercial basis. A large acreage is in improved pasture grasses.

According to the 1969-70 census, farm production income makes up about 48 percent of the total income of the county. Poultry and livestock are the leading income producers. In 1975 there were about 6,900 acres of citrus in the county; more than 85 percent of this acreage was in orange trees. The rest was in grapefruit, tangerine, and other citrus trees.

Transportation

Most of Hernando County is served by good transportation facilities. Several county, state, and federal highways provide ready access between population centers within the county and between the county and the rest of the state. Several trucking firms that have facilities for handling interstate trade serve the county. Rail and bus services are available. Scheduled airline services are not available in Hernando County, but airline service is readily available at the Tampa International Airport. The Brooksville airport is used mainly by private planes for pleasure, charters, and the like.

Recreation

A variety of recreational activities are available in Hernando County. Fishing, hunting, swimming, boating, water skiing, canoeing, and horseback riding are popular. A number of parks and playgrounds with up-to-date facilities are available for public use. A number of areas have been set aside for camping in the Withlacoochee State Forest, but the main camping and recreational area is located at Silver Lake in the Croom Wildlife Management Area. There are picnic facilities at McKethan Lake just north of Brooksville, and one part of the Croom Wildlife Management Area has been set aside for bicycling.

How this survey was made

Soil scientists made this survey to learn what kinds of soil are in the survey area, where they are, and how they can be used. The soil scientists went into the area knowing they likely would locate many soils they already knew something about and perhaps identify some they had never seen before. They observed the steepness, length, and shape of slopes; the size of streams and the general pattern of drainage; the kinds of native plants or crops; the kinds of rock; and many facts about the soils. They dug many holes to expose soil profiles. A profile is the sequence of natural layers, or horizons, in a soil; it extends from the surface down into the parent material, which has been changed very little by leaching or by the action of plant roots.

The soil scientists recorded the characteristics of the profiles they studied, and they compared those profiles with others in counties nearby and in places more distant. Thus, through correlation, they classified and named the soils according to nationwide, uniform procedures.

After a guide for classifying and naming the soils was worked out, the soil scientists drew the boundaries of the individual soils on aerial photographs. These photographs show woodlands, buildings, field borders, roads, and other details that help in drawing boundaries accurately. The soil map at the back of this publication was prepared from aerial photographs.

The areas shown on a soil map are called soil mapping units. Some mapping units are made up of one kind of soil, others are made up of two or more kinds of soil, and a few have little or no soil material at all. Mapping units are discussed in the section "Soil maps for detailed planning."

While a soil survey is in progress, samples of soils are taken as needed for laboratory measurements and for engineering tests. The soils are field tested, and their interpretations are modified as necessary during the course of the survey. New interpretations are added to meet local needs, mainly through field observations of different kinds of soil in different uses under different levels of management. Also, data are assembled from other sources, such as test results, records, field experience, and information available from state and local specialists. For example, data on crop yields under defined practices are assembled from farm records and from field or plot experiments on the same kinds of soil.

But only part of a soil survey is done when the soils have been named, described, interpreted, and delineated on aerial photographs and when the laboratory data and other data have been assembled. The mass of detailed information then needs to be organized so that it is readily useful to different groups of users, among them farmers, managers of rangeland and woodland, engineers, planners, developers and builders, homebuyers, and those seeking recreation.

Soil map for general planning

The general soil map at the back of this publication shows, in color, the soil associations for broad land-use planning described in this survey. Each soil association is a unique natural landscape that has a distinct pattern of soils and of relief and drainage features. An association typically consists of one or more soils of major extent and some soils of minor extent. It is named for the major soils. The kinds of soil in one association can occur in other soil associations, but in a different pattern.

The map provides a broad perspective of the soils and landscapes in the survey area. It provides a basis for comparing the potential of large areas for general kinds of land use. Areas that are generally suitable for certain kinds of farming or other land uses can be identified on the map. Likewise, areas of soils having properties that are distinctly unfavorable for certain land uses can be located.

Because of its small scale, the map does not show the kind of soil at a specific site. Thus, it is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure; the kinds of soils in any one soil association ordinarily differ from place to place in slope, depth, stoniness, drainage, or other characteristics that affect their management.

The soil associations in the survey area vary widely in their potential for major land uses. Table 3 shows the extent of each soil association and gives general ratings of the potential of each, in relation to the other soil associations, for each major land use. Adverse soil properties that pose limitations to the use are indicated. The ratings of soil potential are based on the assumption that practices in common use in the county are used to overcome soil limitations. These ratings reflect the ease of overcoming such soil limitations and the probability of soil problems persisting after such practices are used. The location of existing transportation systems or other kinds of facilities is not considered.

Each association is rated for *community development, citrus, improved pasture* and *woodland.*

Excessively drained to somewhat poorly drained, nearly level to sloping soils of the upland ridge

The four soil associations in this group consist of excessively drained, well drained, and moderately well drained, nearly level to sloping soils on uplands. Some are sandy throughout, some have sandy material 40 to 80 inches thick over loamy material, and others have sandy material 20 to 40 inches thick over loamy material. These associations are generally between U.S. Highways 19 and 301.

1. Candler-Tavares-Paola association

Nearly level to sloping, excessively drained and moderately well drained soils that are sandy throughout; some have thin lamellae of loamy sand and sandy loam at a depth of 48 to 80 inches

This association is made up of broad, rolling sandhill areas interspersed with small ponds, wet swampy areas, and a few sinks (fig. 1). Many areas of this association contain a few sand-bottom lakes ranging from about 5 to 200 acres in size. There are two areas of this association in the county. The larger is about 4 to 8 miles wide. It is along and generally east of U.S. Highway 19 and extends from Pasco County to Citrus County. The smaller area is between Interstate Highway 75 and the Richloam Wildlife Management Area. It is 3 to 4 miles wide and extends from Pasco County to Sumter County.

This association in most places consists of broad, nearly level to sloping, deep, sandy soils that are intermixed with steeper soils in a few relatively small, sharp-breaking steeper areas. The natural vegetation is bluejack, post, and turkey oaks and scattered longleaf and slash pines with a sparse understory of native grasses and annual forbs. In areas of Paola soils, the natural vegetation is sand pine, scrub live oak, scattered turkey and bluejack

oaks, and an understory of scattered sawpalmetto, creeping dodder, rosemary, cacti, mosses, and lichens. In the more poorly drained areas, the natural vegetation is slash and longleaf pines, inkberry, and oak. The wet, swampy areas are mostly bay, gum, cypress, and water-tolerant grasses and sedges.

This association makes up about 90,150 acres, or about 29 percent of the land area of the county. It is about 80 percent Candler soils, about 6 percent Tavares soils, about 3 percent Paola soils, and about 11 percent minor soils.

Candler soils are excessively drained. Typically, they are brownish and yellowish fine sand to a depth of about 48 inches; lamellae of very pale brown fine sand and brown loamy fine sand 1/16 to 1/8 inch thick extend to a depth of 80 inches or more.

Tavares soils are moderately well drained. Typically, the surface layer is dark grayish brown fine sand. Next is very pale brown and light yellowish brown fine sand to a depth of about 48 inches. Below is white fine sand to a depth of 80 inches or more.

Paola soils are excessively drained. Typically, they have a surface layer of gray fine sand and a subsurface layer of white fine sand. These layers extend to a depth of 26 inches. Between depths of 26 and 64 inches is brownish yellow fine sand with tongues of white fine sand. The outer edges of the tongues are stained with yellowish red. Below a depth of 64 inches is very pale brown and white fine sand.

Minor soils in this association are Adamsville, Basinger, Myakka, Pompano, and Sparr soils. Basinger and Myakka soils are the most common; they are in the low, wet areas.

Most of this association is still in natural vegetation. Large areas are in residential and urban developments. Most other areas are in citrus or improved pastures.

2. Arredondo-Sparr-Kendrick association

Nearly level to sloping, well drained and somewhat poorly drained soils that are sandy to a depth of 20 to more than 40 inches over loamy material

This association is made up of well drained and somewhat poorly drained soils in upland areas. These soils are interspersed with a few small sinkholes and relatively small areas of poorly drained soils. Small lakes and ponds are common in this association. This association is in several widely scattered areas dominantly in the central part of the county. Individual areas of this association are very irregularly shaped. The largest area is 1 to 6 miles wide and extends from Pasco County to Citrus County. The towns of Istachatta, Nobleton, and Spring Lake are in this association.

The topography is nearly level to sloping with a few narrow, steep hillsides. Small sinks and depressions are scattered throughout most of these areas. The natural vegetation is slash, longleaf, and loblolly pines; live, laurel, and water oaks; magnolia; hickory; dogwood; and an understory of native grasses and annual forbs.

This association makes up about 51,900 acres, or about 16 percent of the county. It is about 34 percent Arredondo soils, about 25 percent Sparr soils, about 15 percent Kendrick soils, and about 26 percent soils of minor extent.

Arredondo soils are well drained. Typically, the surface layer is very dark gray fine sand. The underlying layers are yellowish brown, brownish yellow, and very pale brown to about 54 inches. Between depths of 54 and 62 inches is reddish yellow fine sand. Below, to a depth of 69 inches, is strong brown loamy fine sand. Next is yellowish brown sandy clay to a depth of about 80 inches. Below that is mixed yellowish red and strong brown sandy clay loam.

Sparr soils are somewhat poorly drained. Typically, the surface layer is dark gray fine sand. The subsurface layer is brown, yellowish brown, and very pale brown fine sand to a depth of about 61 inches. Below is light yellowish brown fine sandy loam and light brownish gray sandy clay loam.

Kendrick soils are well drained. Typically, the surface layer is dark grayish brown fine sand, and the subsurface layer is yellowish brown and brownish yellow fine sand to a depth of about 26 inches. The subsoil is yellowish brown fine sandy loam to a depth of 34 inches and yellowish brown sandy clay to a depth of about 45 inches. Below that is mottled sandy clay and sandy clay loam.

Minor soils in this association are Blichton, Candler, Kanapaha, Myakka, Tavares, and Wauchula soils.

Most of this association is in improved pasture or citrus (fig. 2). Most of the remaining areas are still in natural vegetation. A few areas have been subdivided and are used for residential areas. A few areas are in crops. Wooded areas provide cover and a fair supply of food for wildlife.

3. Candler-Lake association

Nearly level to sloping, excessively drained soils that are sandy throughout; some have thin lamellae of loamy sand and sandy loam at a depth of 48 to 80 inches

This association is made up of broad sandhill areas on uplands. There is only one area of this association in the county. It is almost entirely in the Croom Wildlife Management Area. It is 1 to 5 miles wide and extends from 1 mile south of Nobleton to about one-half mile south of Florida Highway 50.

This association consists of broad areas of nearly level to sloping, deep, sandy soils that are intermixed with a few relatively small, sharp-breaking, steeper slopes. There are only a few wet areas in this association. The natural vegetation is bluejack, post, turkey, and laurel oaks; a few live oaks; and scattered longleaf and slash pines with a sparse understory of native grasses and annual forbs (fig. 3).

This association makes up about 21,350 acres, or about 7 percent of the land area of the county. It is about 67 percent Candler soils, about 23 percent Lake soils, and about 10 percent soils of minor extent.

Candler soils are excessively drained. Typically, they are brownish and yellowish fine sand to a depth of about 48 inches; lamellae of very pale brown fine sand and brown loamy fine sand 1/16 to 1/8 inch thick extend to a depth of 80 inches or more.

Lake soils are also excessively drained. Typically, the surface layer is dark brown fine sand. Below is yellowish brown, strong brown, and reddish yellow fine sand to a depth of 80 inches or more.

Minor soils in this association are Arredondo and Kendrick soils.

Most of this association is in natural vegetation. A few areas are used for residential areas or campgrounds. Most other areas are improved pasture.

4. Masaryk association

Nearly level to gently sloping, moderately well drained soils that are sandy to a depth of 40 to 80 inches over loamy material

This association is made up of relatively flat areas interspersed with only a few grassy ponds and sinkholes. There is only one area of this association in the county. It is triangular, about one-half mile wide at one end and about 5 miles wide at the other. It begins about 2 miles north of the Brooksville Airport and extends southward to Pasco County. Masaryktown is in this association.

Native vegetation consists dominantly of bluejack, post, and live oak; a few scattered turkey oaks; longleaf and slash pines; and an understory of native grasses, perennial legumes, and annual weeds.

This association makes up about 5,580 acres, or about 2 percent of the land area of the county. It is about 85 percent Masaryk soils and about 15 percent minor soils.

Masaryk soils are moderately well drained. Typically, the surface layer is dark gray very fine sand. The subsurface layer is pale brown, very pale brown, and white very fine sand to a depth of about 70 inches. The upper part of the subsoil is mixed light brownish gray and yellowish brown very fine sandy loam, and the lower part to a depth of about 90 inches is grayish brown very fine sandy loam.

Minor soils in this association are Candler, Kendrick, and Nobleton soils.

Most of this association is in improved pastures, and the association contains many egg farms. Some areas are in residential and urban developments.

Somewhat poorly drained to very poorly drained, nearly level to strongly sloping soils of the uplands and flatwoods

The four soil associations in this group consist of somewhat poorly drained, poorly drained, and very poorly drained, nearly level to strongly sloping soils of the rolling uplands and the flatwoods. Some of the soils are clayey or loamy and have sandy material less than 40 inches thick, some are sandy and have loamy material between depths of 40 and 80 inches, and some are sandy throughout. These associations are widely scattered throughout the county. One is west of U.S. Highway 19, one is a strip that extends from Citrus County through Brooksville to Pasco County, and the others are mostly in the Richloam Wildlife Management Area.

5. Nobleton-Blichton-Flemington association

Nearly level to strongly sloping, somewhat poorly drained and poorly drained fine sandy loams to sands less than 40 inches thick over loamy and clayey material

This association is made up of large to small areas of nearly level to strongly sloping soils on uplands. These soils are interspersed in many places with sinkholes. The slopes vary from small, sharp-breaking, wet areas to long, seepy hillsides. The slopes are wet because of hillside seepage. During wet seasons, many of the nearly level soils at the bases of the slopes are subject to ponding because of the high rate of runoff on the slopes and the lack of drainage outlets (fig. 4). Most of this association is in a strip about 5 to 8 miles wide in the center of the county, and it extends from Pasco County to Citrus County. Brooksville is in about the center of this association. Small areas of well drained and very poorly drained soils are in this association.

The natural vegetation is slash, loblolly, and longleaf pines; laurel, live, and water oaks; and sweetgum, hickory, magnolia, dogwood, ironwood, and scattered redcedar. The understory is chiefly waxmyrtle, inkberry, American beautyberry, huckleberry, deer tongue, scattered sawpalmettos, and native grasses.

This association makes up about 69,950 acres, or about 22 percent of the survey area. It is about 23 percent Nobleton soils, about 19 percent Blichton soils, and about 15 percent Flemington soils. About 43 percent of this association is minor soils.

Nobleton soils are somewhat poorly drained. Typically, the surface layer is dark grayish brown fine sand about 7 inches thick. The subsurface layer is brown and very pale brown fine sand to a depth of 26 inches. The subsoil is reddish yellow sandy clay loam to a depth of about 37 inches. Between depths of 37 and 60 inches is mottled yellowish red, strong brown, brown, and gray sandy clay. Below a depth of 60 inches is light gray sandy clay loam.

Blichton soils are poorly drained. Typically, the surface layer is very dark gray loamy fine sand; the subsurface layer is dark grayish brown loamy fine sand to a depth of 23 inches and gray loamy fine sand to a depth of about 28 inches. The subsoil is gray sandy clay loam to a depth of 49 inches, gray sandy clay to a depth of 63 inches, and light gray clay below.

Flemington soils are poorly drained. Typically, the surface layer is very dark gray fine sandy loam about 5 inches thick. The subsoil extends to a depth of 66 inches; it is gray, light brownish gray, and light gray clay. Below this the underlying material is light gray clay.

Minor soils in this association are Arredondo, Basinger, Floridana Variant, Kendrick, Kanapaha, Micanopy, Sparr, Wauchula, Williston, and Williston Variant soils. Micanopy and Wauchula soils make up about one-half of the area of minor soils and are mostly in level or gently sloping areas.

Most of this association is in improved pasture. Some areas are in crops and citrus. Much of it is still in natural vegetation. A few areas are in residential development. Wooded areas provide food and cover for wildlife.

6. EauGallie-Wabasso-Basinger association

Nearly level, poorly drained sandy soils; some have a weakly cemented layer at a depth of less than 30 inches over loamy material; others are sandy throughout

This association is made up of nearly level pine and sawpalmetto flatwoods interspersed with small, grassy, wet depressions, cypress ponds, and swamps. Some of the depressional areas are connected by narrow, wet drainageways. This association is in the eastern part of the county. It is entirely in the Richloam Wildlife Management Area and borders both Sumter and Pasco Counties.

The natural vegetation is longleaf and slash pine, saw-palmetto, waxmyrtle, inkberry, runner oak, and native grasses in the broad, poorly drained, flatwoods areas. The vegetation in the depressions is mostly maidencane and St. Johnswort. The vegetation in the swamps is chiefly cypress, bay, and gum trees.

This association makes up about 9,500 acres, or about 3 percent of the county. It is about 40 percent EauGallie soils, about 18 percent Wabasso soils, about 15 percent Basinger soils, and about 27 percent minor soils.

EauGallie soils are poorly drained. Typically, the surface layer is black fine sand about 5 inches thick. The subsurface layer is gray and grayish brown fine sand. Between depths of 17 and 26 inches is dark colored, weakly cemented fine sand. Below, to a depth of 72 inches, is brown, very pale brown, and grayish brown fine sand. Below a depth of 72 inches is light brownish gray fine sandy loam.

Wabasso soils are poorly drained. Typically, the surface layer is black fine sand about 3 inches thick. The subsurface layer is gray fine sand. Between depths of 21 and 34 inches is dark colored, weakly cemented fine sand. Below this is a layer of pale brown fine sand about 4 inches thick. Below a depth of 38 inches is light brownish gray sandy loam and grayish brown sandy clay loam and sandy loam.

Most areas of the Basinger soils are covered with standing water for periods of 6 to 9 months or more in most years. They are sandy to a depth of more than 80 inches. Typically, the surface layer is black and the subsurface is light gray. Between depths of 25 and 36 inches is mixed dark brown and gray fine sand. Below a depth of 36 inches is light gray fine sand.

Minor soils in this association are Anclote, Delray, Floridana, Myakka, and Wauchula soils. The Floridana soil is the most significant of the minor soils.

7. Myakka-Basinger association

Nearly level, poorly drained sandy soils; some have weakly cemented layers at a depth of less than 30 inches

This association is made up of nearly level pine and saw-palmetto flatwoods interspersed with small, grassy, wet depressions and cypress and hardwood swamps. Some of the depressional areas are connected by narrow, wet drainageways. This association is in the western part of the county in a transitional zone between Chassahowitzka and Weekiwachee Swamps and the sandhill uplands. It ranges from about one-half mile to 2 miles wide and extends nearly the entire length of the county generally parallel to and west of U.S. Highway 19.

The natural vegetation is longleaf and slash pines, saw-palmetto, waxmyrtle, inkberry, runner oak, and native grasses in the broad flatwoods areas. The grassy depressions are covered mostly with maidencane and St. Johnswort, and the swampy areas are in cypress, bay, and gum trees.

This association makes up about 9,500 acres, or about 3 percent of the county. It is about 55 percent Myakka soils, about 35 percent Basinger soils, and about 10 percent soils of minor extent.

Myakka soils are poorly drained. Typically, the surface layer is black fine sand about 5 inches thick. The subsurface layer is light gray fine sand. Between depths of 25 and 42 inches is dark colored, weakly cemented fine sand. Below a depth of 42 inches is light brownish gray and light gray fine sand.

Most areas of the Basinger soils are in depressions and are covered with standing water for periods of 6 to 9 months or more in most years. They are sandy to a depth of more than 80 inches. Typically, the surface layer is black and the subsurface layer is light gray. Between depths of 25 and 36 inches is mixed dark brown and gray fine sand. Below a depth of 36 inches is light gray fine sand.

Minor soils in this association are Adamsville, Anclote, and Tavares soils.

Most of this association is still in natural vegetation. Some areas are in residential development. The wooded areas provide food and good cover for wildlife, especially birds and small animals.

8. Paisley-Floridana-Wabasso association

Nearly level, poorly drained and very poorly drained sandy soils; some have a clayey subsoil within a depth of 20 inches; others are sandy to a depth of 20 to 40 inches and loamy below

This association is made up of nearly level flatwoods, oak hammocks, small sloughs, depressions, and scattered intermittent ponds. Most of this association is in the

Richloam Wildlife Management Area. Some parts extend a little to the west of U.S. Highway 301. The natural vegetation consists of slash and longleaf pines, cabbage palms, live oak hammocks, and sweetgum, with an understory of inkberry, pineland three-awn, and saw-palmetto, and various native grasses, vines, and sedges (fig. 5). The depressions consist mostly of cypress, cattails, and dense stands of maidencane and sawgrass.

This association makes up about 7,160 acres, or slightly more than 2 percent of the land area in the county. It is about 35 percent Paisley soils, about 35 percent Floridana soils, about 15 percent Wabasso soils, and about 15 percent minor soils.

Paisley soils are poorly drained. Typically, they have a surface layer of very dark gray fine sand and a subsurface layer of grayish brown fine sand. Gray clayey material is within a depth of 20 inches.

Floridana soils are very poorly drained. Typically, they have a thick, dark-colored, sandy surface layer and a loamy subsoil at a depth of 20 to 40 inches.

Wabasso soils are poorly drained. They have a black or very dark gray, sandy surface layer; a dark colored, weakly cemented, sandy layer within a depth of 30 inches; and loamy material within a depth of 40 inches.

Minor soils in this association are Basinger, Delray, EauGallie, and Wauchula soils.

Large areas of this association are still in natural vegetation, but most of the original pines have been harvested and the soils now support second-growth timber. Most areas outside of the Richloam Wildlife Management Area have been planted to improved pastures. The wooded areas provide good cover and food for native birds and animals.

Poorly drained and very poorly drained, nearly level soils in swamps, tidal marshes, and river flood plains

The three soil associations in this group consist of broad expanses of organic soils, freshwater swamps, and tidal marshes. They are made up of nearly level, organic and mineral soils subject to flooding and standing water. They are located along the coast, in Chassahowitzka and Weekiwachee Swamps, and along the Withlacoochee and Little Withlacoochee Rivers.

9. Okeelanta-Aripeka-Terra Ceia association

Nearly level, very poorly drained and somewhat poorly drained soils; some have organic material 16 to 40 inches thick over sandy material and some have organic material more than 52 inches thick; others have loamy material 20 to 30 inches thick over limestone

This association is made up of nearly level, freshwater hardwood and cypress swamps. It is west of U. S. Highway 19 in Chassahowitzka and Weekiwachee Swamps. This association is about 1 to 4 miles wide and extends the entire length of the county. Most of this association, except for the Aripeka soils and some minor soils, is covered with water except during extended dry periods.

The natural vegetation is a forest of sweetbay, sweetgum, cypress, various pines, cabbage palm, water oaks, hickory, magnolia, and cedar with an understory of maidencane, cattails, sawgrass, royal and cinnamon ferns, saw-palmetto, goat vine, muscadine vine, inkberries, and various aquatic plants.

This association makes up about 33,580 acres, or about 11 percent of the land area in the county. It is about 30 percent Okeelanta soils, about 10 percent Aripeka soils, about 10 percent Terra Ceia soils, and about 50 percent minor soils.

Okeelanta soils are very poorly drained. Typically, the surface layer is black and very dark gray muck to a depth of about 27 inches. Below is light gray fine sand.

Aripeka soils are somewhat poorly drained. Typically, the surface layer is dark gray fine sand, and the subsurface layer is grayish brown fine sand. The subsoil is yellowish brown and dark brown fine sand. Cobbly fine sandy loam is within a depth of 10 to 20 inches. White soft and hard limestone is within a depth of 40 inches.

Terra Ceia soils are very poorly drained. Typically, they are black or dark reddish brown muck to a depth of 51 inches or more.

Minor soils in this association are Anclote, Basinger, Delray, EauGallie, Floridana, Lauderhill, Myakka, and Wabasso soils. The Lauderhill soil is the most extensive of the minor soils.

Most of this association is still in natural vegetation. Some areas along Florida Highway 595 have been filled and used for residential development.

10. Homosassa-Weekiwachee-Lacoochee association

Nearly level, very poorly drained organic and mineral soils and poorly drained, thin, sandy soils over limestone; subject to frequent tidal flooding

This association is made up of soils in saltwater marshes. It is on the west side of the county adjacent to the Gulf of Mexico. It is about 1/4 mile to 3 miles wide and extends the entire length of the county. The natural vegetation consists mostly of salt-tolerant grasses and shrubs such as needlegrass rush, seashore saltgrass, marshhay cordgrass, big cordgrass, smooth cordgrass, and red mangrove. There are a very few scattered cabbage palms and small hammocks of cabbage palm and cedar.

This association makes up 12,625 acres, or about 4 percent of the land area in the county. It is 41 percent Homosassa soils, 32 percent Weekiwachee soils, 9 percent Lacoochee soils, and 18 percent minor soils.

Homosassa soils have a thick black surface layer and are underlain with white soft and hard limestone at a depth of 20 to 40 inches. They are very poorly drained.

Weekiwachee soils have a thick black muck surface layer and are underlain with limestone at a depth of 20 to 40 inches. They are very poorly drained.

Lacoochee soils have a surface layer of light gray fine sandy loam carbonatic overburden and a sandy subsoil. The soft and hard limestone is at a depth of about 7 to 20 inches. Lacoochee soils are poorly drained.

Aripeka soils are the dominant minor soils.

This association is still in natural vegetation. It is too wet, too salty, and has too high a sulfur content for most uses. Waterfowl such as cranes and herons are common, and ducks are common in winter.

11. Floridana-Basinger association

Nearly level, poorly drained and very poorly drained soils; some are sandy to a depth of 20 to 40 inches and loamy below; others are sandy throughout

This association is made up of low, first river bottoms that are flooded frequently. It is interspersed with shallow river channels. It is along the boundary between Hernando and Sumter Counties and is adjacent to the Withlacoochee River and the Little Withlacoochee River. The natural vegetation is dense vegetation consisting of water oaks, cypress, sweetgum, hickory, cutgrass maidencane, sawgrass, swamp primrose, buttonbush, smartweed, sedges, and other water tolerant plants.

This association makes up about 1,025 acres, or less than 1 percent of the land area in the county. It is about 55 percent Floridana soils, about 30 percent Basinger soils, and about 15 percent minor soils.

Floridana soils are very poorly drained. They have a thick, dark colored surface layer and a loamy subsoil at a depth of 20 to 40 inches.

Basinger soils are poorly drained. They are sandy to a depth of more than 80 inches. Typically, the surface layer is black and the subsurface layer is light gray. Between depths of 25 and 36 inches is mixed dark brown and gray fine sand. Below a depth of 36 inches is light gray fine sand.

Minor soils in this association are Anclote, Delray, and Okeelanta soils. Delray soils are the most extensive. The area near the town of Nobleton is mostly Okeelanta muck.

This association is still in natural vegetation. Except when flooded, some of it is used for range or native pasture. It is too wet for pine trees. Waterfowl such as cranes and herons are common, and ducks are common in winter.

Soil maps for detailed planning

The map units shown on the detailed soil maps at the back of this publication represent the kinds of soil in the survey area. They are described in this section. The descriptions together with the soil maps can be useful in determining the potential of a soil and in managing it for food and fiber production; in planning land use and developing soil resources; and in enhancing, protecting, and preserving the environment. More information for each map unit, or soil, is given in the section "Use and management of the soils."

Preceding the name of each map unit is the symbol that identifies the soil on the detailed soil maps. Each soil description includes general facts about the soil and a brief description of the soil profile. In each description, the principal hazards and limitations are indicated, and the management concerns and practices needed are discussed.

The map units on the detailed soil maps represent an area on the landscape made up mostly of the soil or soils for which the unit is named. Most of the delineations shown on the detailed soil map are phases of soil series.

Soils that have a profile that is almost alike make up a *soil series*. Except for allowable differences in texture of the surface layer or of the underlying substratum, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement in the profile. A soil series commonly is named for a town or geographic feature near the place where a soil of that series was first observed and mapped. The Nobleton series, for example, was named for the town of Nobleton in Hernando County.

Soils of one series can differ in texture of the surface layer or in the underlying substratum and in slope, erosion, stoniness, salinity, wetness, or other characteristics that affect their use. On the basis of such differences, a soil series is divided into phases. The name of a *soil phase* commonly indicates a feature that affects use or management. For example, Nobleton fine sand, 0 to 5 percent slopes, is one of several phases within the Nobleton series.

Some map units are made up of two or more dominant kinds of soil. Such map units are called soil complexes, soil associations, and undifferentiated groups.

A *soil complex* consists of areas of two or more soils that are so intricately mixed or so small in size that they cannot be shown separately on the soil map. Each area includes some of each of the two or more dominant soils, and the pattern and proportion are somewhat similar in all areas. Candler-Urban land complex is an example.

A *soil association* is made up of soils that are geographically associated and are shown as one unit on the map because it is not practical to separate them. A soil association has considerable regularity in geographic pattern and in the kinds of soil that are a part of it. The extent of the soils can differ appreciably from one delineation to another; nevertheless, interpretations can be made for use and management of the soils. Aripeka-Okeelanta-Lauderhill association is an example.

An *undifferentiated group* is made up of two or more soils that could be mapped individually but are mapped as one unit because there is little value in separating them. The pattern and proportion of the soils are not uniform. An area shown on the map has at least one of the dominant (named) soils or may have all of them. No undifferentiated groups are in this survey area.

Most map units include small, scattered areas of soils other than those that appear in the name of the map unit. Some of these soils have properties that differ substantially from those of the dominant soil or soils and thus could significantly affect use and management of the map unit. These soils are described in the description of each map unit. Some of the more unusual or strongly contrasting soils that are included are identified by a special symbol on the soil map.

Most mapped areas include places that have little or no soil material and support little or no vegetation. Such places are called *miscellaneous areas*; they are delineated on the soil map and given descriptive names. Pits is an example. Some of these areas are too small to be delineated and are identified by a special symbol on the soil map.

The acreage and proportionate extent of each map unit are given in table 4, and additional information on properties, limitations, capabilities, and potentials for many soil uses is given for each kind of soil in other tables in this survey. (See "Summary of tables.") Many of the terms used in describing soils are defined in the Glossary.

The potential of a soil is the ability of that soil to produce, yield, or support the given structure or activity at a cost expressed in economic, social, or environmental units of value. The criteria used for rating soil potential include the relative difficulty or cost of overcoming soil limitations, the continuing limitations after practices in general use in overcoming the limitations are installed, and the suitability of the soil relative to other soils in Hernando County.

A five-class system of soil potential is used. The classes are defined as follows:

Very high potential. Soil limitations are minor or are relatively easy to overcome. Performance for the intended use is excellent. Soils rated with very high potential are the best in the county for the particular use.

High potential. Some soil limitations exist, but practices necessary to overcome the limitations are available at reasonable cost. Performance for the intended use is good.

Medium potential. Soil limitations exist and can be overcome with recommended practices; limitations, however, are mostly of a continuing nature and require practices that have to be maintained or that are more difficult or costly than average. Performance for the intended use ranges from fair to good.

Low potential. Serious soil limitations exist, and they are difficult to overcome. Practices necessary to overcome the limitations are relatively costly compared to those required for soils of higher potential. Necessary practices can involve environmental values and considerations. Performance for the intended use is poor or unreliable.

Very low potential. Very serious soil limitations exist, and they are most difficult to overcome. Initial cost of practices and maintenance cost are very high compared to those of soils with high potential. Environmental values are usually depreciated. Performance for the intended use is inadequate or below acceptable standards.

Soil descriptions

1—Adamsville fine sand. This is a somewhat poorly drained soil on low, broad flats that are less than 2 feet higher than the adjacent sloughs. Slopes are generally less than 2 percent.

Typically the surface layer is very dark gray fine sand about 3 inches thick. The underlying layers extend to a depth of 80 inches or more. The upper 7 inches is very pale brown fine sand, and the next 10 inches is light gray fine sand. Below is white fine sand.

Included with this soil in mapping are small areas of Basinger, Pompano, and Tavares soils. Included soils generally make up less than 10 percent of any mapped area.

In most years, under natural conditions, the water table is at a depth of 20 to 40 inches for 2 to 6 months but rises to within 20 inches of the surface for less than 2 weeks during very wet seasons. It recedes to a depth of more than 40 inches during dry periods. This soil has low available water capacity. Natural fertility is low. Permeability is rapid.

A large part of the acreage is in natural vegetation: slash pine, laurel and water oaks, and an understory of saw-palmetto and pineland three-awn.

In its natural state, this soil has severe limitations for cultivated crops because of periodic wetness. The number of adapted crops is very limited unless intensive water control measures are used. The potential for crops is medium if a water control system is installed to remove excess water in wet seasons and provide subsurface irrigation in dry seasons. Soil improving crops and the residues of all other crops should be plowed under. Fertilizer and lime should be added according to the need of the crop.

The potential for citrus trees on this soil is high if a water control system is installed to remove excess water from the soil rapidly to a depth of about 4 feet. The trees should be planted on beds. A cover of close-growing vegetation should be maintained between the trees to protect the soil from blowing in dry weather and from washing during heavy rains. The trees require regular applications of fertilizer, and highest yields require irrigation in seasons of low rainfall. Citrus should not be grown in areas subject to frequent freezing temperatures. The potential for improved pasture grasses on this soil is medium. A simple water control system is needed to remove excess surface water in times of heavy rainfall. The soils also require regular fertilization. Grazing should be carefully controlled to maintain healthy plants for highest yields.

This soil has medium potential for longleaf and slash pines. The low fertility of the sand keeps this soil from being more productive. Slash pines are better suited for planting than other trees.

This soil has high potential for septic tank absorption fields, dwellings without basements, small commercial buildings, and local roads and streets if proper water con-

trol measures are used. With surface stabilization, the soil has high potential for playgrounds. Potential is medium for trench type sanitary landfills if the trench is sealed or lined with impervious material and medium for shallow excavations if the side slopes are shored and proper water control measures are used. The soil has low potential for sewage lagoon areas even if the areas are sealed and lined with impervious material and proper water control measures are used. Capability subclass IIIw.

2—**Anclote fine sand.** This is a very poorly drained soil in depressional areas. Slopes are usually concave and less than 2 percent.

Typically, the surface layer is black fine sand about 7 inches thick. The subsurface layer is very dark gray fine sand about 7 inches thick. Below that is fine sand. The upper 6 inches of it is grayish brown, the next 10 inches is light brownish gray, and the next layer is gray to a depth of 80 inches or more.

Included with this soil in mapping are small areas of Basinger soils, depressional, and Delray, Floridana, and Pompano soils. Also included are similar soils that have a thin surface layer of muck. Included soils make up about 15 percent of any mapped area.

In most years, under natural conditions, the water table is above the surface for 3 to 6 months during wet seasons and recedes to a depth of more than 20 inches during dry seasons. This soil has medium available water capacity to a depth of about 14 inches and low available water capacity below this depth. Permeability is rapid throughout. Internal drainage, however, is slow because it is impeded by a shallow water table. Natural fertility and organic matter content are high to a depth of about 14 inches and low below this depth.

Natural vegetation consists of cypress, cabbage palms, bay, and pond pine. Grasses include maidencane, giant cutgrass, low panicums, sand cordgrass, and other perennial grasses.

Under natural conditions, this soil is unsuitable for crops. The water table, which is above the surface most of the year, severely restricts plant growth. Adequate water control systems are difficult to establish because in most places suitable outlets are not available. If a water control system can be installed, however, the potential for production of good quality pastures is medium.

This soil has high potential for longleaf and slash pines. A good water control system designed for the removal of excess surface water is needed before trees can be planted.

This soil has low potential for septic tank absorption fields, trench type sanitary landfills, sewage lagoon areas, dwellings without basements, small commercial buildings, local roads and streets, and playgrounds and very low potential for shallow excavations even if proper water control measures are installed. Fill material is needed for septic tank absorption fields, dwellings without basements, small commercial buildings, local roads and streets, and playgrounds. Mounding is needed in some areas used for septic tank absorption fields. Sealing or lining with impervious material is needed for trench type sanitary landfills and sewage lagoon areas. Side slopes need to be shored when the soil is used for shallow excavations. Playgrounds require surface stabilization. Capability subclass VIIw.

3—**Arents-Urban land complex.** This complex is in the western part of the county near the Gulf of Mexico. Individual areas range from about 20 to 400 acres in size. About 30 to 50 percent of the acreage is Arents, and 15 to 25 percent is Urban land or areas covered by houses, streets, driveways, buildings, parking lots, and other structures. The remainder of the acreage is canals leading to the Gulf.

Arents consist of soil materials dug from canals in tidal areas and reworked and shaped for building sites. They consist dominantly of mineral material and fragments of hard and soft limestone, but parts of the former muck layers are mixed throughout the soil. Arents do not have an orderly sequence of soil layers but are a variable mixture of lenses, streaks, and pockets within short distances. Depth of the fill material ranges from about 40 to 60 inches. Beneath the fill material in most places is a layer of compressed muck, which in turn is underlain by limestone.

Included with this soil in mapping are small areas of Udalfic Arents-Urban land complex. These included soils make up about 25 percent of any mapped area.

The water table is at a depth of 40 to 60 inches throughout the year. Permeability is variable. Natural fertility is low.

Present land use precludes the use of this soil for cultivated crops, citrus, or improved pasture. The soil is poorly suited to lawn grasses and shrubs unless topsoil is spread over the surface to make a suitable root zone.

Areas of this soil not covered by urban structures have high potential for septic tank absorption fields and shallow excavations if proper water control measures are used. The soil has high potential for dwellings without basements, small commercial buildings, and local roads and streets if the area and structural strength of footings and foundations are increased. Potential for playgrounds is very high if the surface is stabilized. Potential is medium for trench type sanitary landfills and low for sewage lagoons, even if proper water control measures are used and the areas are sealed and lined with impervious material. Capability subclass VIs.

4—**Aripeka fine sand.** This mapping unit consists of nearly level, somewhat poorly drained soils on low ridges adjacent to saltwater marsh. This soil formed in marine sandy and loamy sediments and is underlain by limestone at a depth of 23 to 40 inches except in solution holes, where thickness ranges to 45 inches or more. Slopes are dominantly less than 1 percent.

Typically, the surface layer is dark gray fine sand about 3 inches thick. The subsurface layer is grayish brown fine sand about 2 inches thick. The subsoil is 16 inches thick. The upper 5 inches is yellowish brown fine sand; the next 3 inches is dark brown fine sand; the next

2 inches is dark yellowish brown cobbly sandy clay loam; and the lower 6 inches is strong brown cobbly fine sandy loam. Below is about 8 inches of soft limestone above hard limestone.

Included with this soil in mapping are similar soils that have 2 to 5 inches of carbonatic material on the surface. Also included are small areas of Wabasso soils and soils in which the limestone is above a depth of 20 inches. Included soils make up about 15 percent of any mapped area.

The water table is at a depth of 18 to 30 inches for 2 to 6 months and at a depth of 30 to 60 inches for 6 months or more during most years. During severe storms, this soil may be very briefly flooded by storm tides. Aripeka soils have low available water capacity in the surface layer and medium available water capacity in the subsoil. Natural fertility is low. Permeability is moderately rapid.

Native vegetation consists of longleaf and slash pines, live oak, southern redcedar, cabbage palm, and an undergrowth dominantly of saw-palmetto, pineland threeawn, yaupon, and a few scattered inkberry and American beautyberry.

Aripeka soils have medium potential for cultivated crops because of the shallow root zone and the flooding hazard. They have high potential for improved pasture grasses, but should be protected from occasional flooding by storm tides.

This soil has medium potential for the production of pines. The main management concerns are seedling mortality and plant competition. Slash pine is better suited to planting than other trees.

This soil has low potential for septic tank absorption fields, shallow excavations, and local roads and streets if proper water control measures are used, areas are protected from tidal flooding, and special equipment is used. With proper water control and flood control, potential is medium for dwellings without basements, small commercial buildings, and playgrounds. In addition, the surface needs to be stabilized for playgrounds. The soil has very low potential for trench type sanitary landfills and shallow lagoon areas even with flood protection, sealing and lining with impervious material, and use of special equipment. Water control is also necessary for trench sanitary landfills. Capability subclass IVw.

5—Aripeka-Okeelanta-Lauderhill association. This association consists of somewhat poorly drained and very poorly drained soils in a regular and repeating pattern. The landscape is a broad swamp interspersed with low ridges. The Aripeka soils are on the low ridges, and the Okeelanta and Lauderhill soils are in the swamp. The mapped areas are mostly long and very broad. This association makes up a large part of the Chassahowitzka Swamp. Individual areas of each soil range from 5 to 150 acres.

The somewhat poorly drained Aripeka soils make up about 24 percent of the association. Typically, Aripeka soils have a surface layer about 13 inches thick. The upper 3 inches is very dark gray fine sand, the next 2 inches is grayish brown fine sand, the next 5 inches is yellowish brown fine sand, and the lower 3 inches is dark brown fine sand. The subsoil extends to a depth of 21 inches. The upper 2 inches is dark brown cobbly sandy clay loam, and the lower 6 inches is strong brown cobbly fine sandy loam. Below is soft limestone.

Aripeka soils have low available water capacity in the surface layer and medium available water capacity in the subsoil. Permeability is moderately rapid. The water table is at a depth of 18 to 30 inches for 2 to 6 months and at a depth of 30 to 60 inches for 6 months or more during most years.

The very poorly drained Okeelanta soils make up about 23 percent of the association. Typically, Okeelanta soils are muck to a depth of about 37 inches. The upper 9 inches is black, and the lower 28 inches is dark reddish brown. The next layer is dark gray fine sand to a depth of 60 inches or more.

Okeelanta soils have rapid permeability throughout. Available water capacity is very high in the muck layers and low in the mineral layers. Natural fertility and organic matter content are very high. The water table is above the surface much of the year and is within a depth of 10 inches except during periods of extreme drought.

The very poorly drained Lauderhill soils make up about 18 percent of the association. Typically, Lauderhill soils are muck to a depth of about 26 inches. The upper 9 inches is black, and the lower 17 inches is dark brown. Below is hard limestone. Fractures in the limestone are filled with very soft limestone.

Lauderhill soils have rapid permeability throughout. Available water capacity, natural fertility, and organic matter content are very high. The water table is above the surface much of the year and is within a depth of 10 inches except during periods of extreme drought.

Minor soils make up about 35 percent of the association. The most extensive ones are Terra Ceia muck; rocky soils that have only a thin sandy, loamy, or mucky surface layer overlying limestone; and deep, poorly drained, sandy soils.

Most areas of this association are still in natural vegetation of sweetgum, baldcypress, cabbage palm, sweetbay, various water-tolerant oaks, hickory, magnolia, cedar, several pine species, and an understory of saw-palmetto, dogfennel, various paspalums and panicums, cattails, sawgrass, goat vine, muscadine vines, gallberries, and pokeweed.

Aripeka soils have medium potential for cultivated crops, and Okeelanta and Lauderhill soils have high potential for some specialized crops if a water control system is installed. All the soils have high potential for improved pasture grasses if a water control system regulates the water table on Okeelanta and Lauderhill soils. Aripeka soils have medium potential for the production of pines, but Okeelanta and Lauderhill soils are not suitable for production of pine trees. The potential for wetland and woodland wildlife is high. Shallow water areas are easily developed; food and cover are abundant.

The organic Okeelanta and Lauderhill soils make up most of this association. These soils have very low potential for dwellings without basements, small commercial buildings, local roads and streets, and playgrounds even if the organic material is removed, the excavation is backfilled with suitable soil material, and proper water control measures are used. Potential is very low for trench sanitary landfills and sewage lagoon areas even if the areas are sealed or lined with impervious materials. In addition, proper water control is necessary for trench sanitary landfills, and use of special equipment is necessary in sewage lagoon areas. Potential is very low for septic tank absorption fields even if the organic material is removed and areas are backfilled with suitable material, the absorption field is mounded, and proper water control measures are used. Even with water control and use of special equipment, potential is low for shallow excavations. Aripeka soils in capability subclass IVw; Okeelanta and Lauderhill soils in capability subclass IIIw.

6—Arredondo fine sand, 0 to 5 percent slopes. This is a nearly level to gently sloping, well drained soil on the uplands. Slopes are smooth to concave.

Typically, the surface layer is very dark gray fine sand about 8 inches thick. The subsurface layer is about 46 inches thick. The upper 6 inches is light yellowish brown fine sand, the next 27 inches is brownish yellow fine sand, and the lower 13 inches is very pale brown fine sand. The upper 8 inches of the subsoil is reddish yellow fine sand, the next 7 inches is strong brown loamy fine sand, the next 11 inches is yellowish brown sandy clay, and below that to a depth of 99 inches is mixed yellowish red and strong brown sandy clay loam.

Included with this soil in mapping are similar soils that have plinthite content of more than 5 percent. Also included are small areas of Candler, Kendrick, Lake, and Sparr soils. Included soils make up about 18 percent of any one mapped area.

This soil has low available water capacity in the surface and subsurface layers and medium to high available water capacity in the subsoil. Permeability is rapid in the surface and subsurface layers and moderate or moderately rapid in the subsoil. Natural fertility is low.

Most areas of this soil are cleared and planted to pasture grasses or citrus trees. The natural vegetation in the remaining areas consists of loblolly, slash, and longleaf pines; live, laurel, and water oaks; magnolia; hickory; dogwood; and an understory of bluestem, dwarf huckleberry, smilax, yellow jasmine, paspalum, pineland three-awn, and other native grasses and weeds.

This soil has severe limitations for cultivated crops mainly because of droughtiness and rapid leaching of plant nutrients. The potential is medium if good practices are used and irrigation water is applied in dry seasons where it is available. The soil requires special soil improving measures when it is cultivated. Cultivated crops should be planted on the contour in alternating strips with close-growing crops. The cropping sequence should keep the soil under close-growing vegetation at least two-thirds of the time. Soil improving crops and all crop residues should be left on the land or plowed under. All crops need frequent fertilizing and liming.

This soil has high potential for citrus trees in places relatively free from freezing temperatures. A good ground cover of close-growing plants is needed between the trees to protect the soil from blowing. Good yields of fruit can usually be obtained without irrigation, but where water for irrigation is readily available, increased yields make irrigation feasible.

The potential of this soil is medium for improved pasture grasses if deep-rooting grasses such as Coastal bermudagrass and bahiagrass are planted. Yields are occasionally restricted by extreme droughts. Grazing should be controlled to maintain vigorous plants for highest yields.

Potential productivity of slash and longleaf pines on this soil is medium.

This soil has very high potential for septic tank absorption fields, dwellings without basements, and local roads and streets even if no corrective measures are taken. It also has high potential for trench sanitary landfills if the areas are sealed or lined with impervious material; high potential for shallow excavations if side slopes are shored; and high potential for small commercial buildings if erosion is controlled. With land shaping and sealing or lining with impervious materials, the soil has high potential for sewage lagoon areas. With land shaping and surface stabilization, it has high potential for playgrounds. Capability subclass IIIs.

7—Arredondo fine sand, 5 to 8 percent slopes. This is a sloping, well drained soil on uplands. Slopes are smooth to concave.

Typically, the surface layer is very dark grayish brown fine sand about 3 inches thick. The subsurface layer is about 49 inches thick. In sequence from the top, the upper 6 inches is yellowish brown fine sand, the next 26 inches is brownish yellow fine sand, and the lower 17 inches is very pale brown fine sand. The upper 3 inches of the subsoil is strong brown loamy fine sand. The next 20 inches is strong brown sandy clay loam and sandy clay over reddish yellow loamy sand that extends to a depth of 80 inches or more.

Included with this soil in mapping are similar soils that have plinthite content of more than 5 percent and similar soils that have slopes of less than 5 percent or more than 8 percent. Also included are small areas of Candler, Kendrick, Lake, and Sparr soils. In some small areas the soil is moderately eroded. Included soils make up about 20 percent of any mapped area.

This soil has low available water capacity in the surface and subsurface layers and medium to high available water capacity in the subsoil. Permeability is rapid in the surface and subsurface layers and moderate or moderately rapid in the subsoil. Natural fertility is low.

Some areas of this soil have been cleared and are mostly in pasture or citrus. Natural vegetation in wooded areas consists of slash, longleaf, and loblolly pines; live,

laurel, and water oaks; hickory; magnolia; and dogwood and an understory of bluestem, dwarf huckleberry, smilax, yellow jasmine, paspalum, pineland three-awn, and other native grasses and weeds.

This soil has very severe limitations for cultivated crops, mainly because of droughtiness, rapid leaching of plant nutrients, and steepness of slope. The potential is high if good management practices are used. Erosion control measures such as contour stripcropping and cropping sequences that keep this soil covered with close-growing, soil-improving crops at least three-fourths of the time are needed.

The potential for citrus trees on this soil is high in places that are relatively free from freezing temperatures. Good yields can be attained in many years without irrigation, but for best yields, irrigation should be used where water is readily available.

The potential of this soil for improved pasture grasses is high if deep-rooting grasses such as Coastal bermudagrass and bahiagrass are planted, fertilized, and limed. Yields are occasionally restricted by extended droughts. Grazing should be controlled to maintain vigorous plants for higher yields.

Potential productivity of slash and longleaf pines on this soil is medium.

This soil has very high potential for septic tank absorption fields and local roads and streets even if no corrective measures are taken. It also has high potential for trench sanitary landfills if the areas are shaped and sealed or lined with impervious material; high potential for shallow excavations if side slopes are shored; and high potential for dwellings without basements if the structure is designed to fit the slope. Potential is high for small commercial buildings if erosion is controlled, buildings are designed to fit the slope, and the land is shaped. Potential is high for playgrounds if the land is shaped and the surface is stabilized. Potential is medium for sewage lagoons if the land is shaped and sealed or lined with impervious material. Capability subclass IVs.

8—**Astatula fine sand, 0 to 8 percent slopes.** This is a nearly level to sloping, excessively drained soil in the sandhill area of the county. Slopes are smooth to concave.

Typically, the surface layer is gray fine sand about 4 inches thick. The underlying material is brownish yellow fine sand to a depth of 24 inches over yellow fine sand to a depth of 85 inches or more.

Included with this soil in mapping are small areas of Candler, Paola, and Tavares soils. Included soils make up about 10 percent of any mapped area.

The water table is below a depth of 72 inches. Astatula soils have very low available water capacity and very low natural fertility. Permeability is very rapid throughout the soil.

Few areas of this soil have been cleared. Native vegetation consists of sand pine, scrub live oak, scattered turkey oak, and longleaf pine and an understory of rosemary, pineland three-awn, bluestem, paspalum, saw-palmetto, and cacti.

This soil has low potential for cultivated crops because of droughtiness and rapid leaching of plant nutrients. It is not suitable for most commonly cultivated crops. The potential for improved pasture grasses is low even if good management practices are used. Grasses such as pangolagrass and bahiagrass are better adapted than others. Clovers are not adapted to this soil.

This soil has medium potential for citrus, but yields are low unless irrigation is used.

The potential of this soil is very low for commercial production of pine trees. Sand pines are the best trees to plant. Seedling mortality and mobility of equipment are the major management concerns for commercial tree production.

This soil has very high potential for dwellings without basements and local roads and streets even if no corrective measures are taken. Potential is very high for septic tank absorption fields even though excessive permeability can cause pollution of ground water. With erosion control and land shaping, potential is high for small commercial buildings. This soil has high potential for trench sanitary landfills if the areas are sealed or lined with impervious material and high potential for shallow excavations if the side slopes are shored. This soil has medium potential for playgrounds, but land shaping and surface stabilization are necessary. This soil has low potential for sewage lagoon areas, but land shaping and sealing or lining with impervious material are necessary. Capability subclass VIs.

9—**Basinger fine sand.** This is a poorly drained, nearly level soil in poorly defined drainageways and sloughs in the flatwoods. Slopes are less than 2 percent.

Typically, the surface layer is black fine sand about 3 inches thick. The subsurface layer is light brownish gray fine sand to a depth of about 8 inches. The subsoil is grayish brown fine sand that has discontinuous lenses of dark reddish brown and dark brown. The next layer, extending to a depth of about 40 inches, is light gray fine sand. To a depth of 80 inches or more is white fine sand.

Included with this soil in mapping are similar soils that differ by having a surface layer 10 to 13 inches thick. Also included are small areas of Anclote, Myakka, and Pompano soils. Included soils make up about 15 percent of any mapped area.

This soil has a water table at a depth of less than 10 inches for 2 to 6 months annually and at a depth of 10 to 30 inches for periods of more than 6 months in most years. This soil has very rapid permeability throughout. The available water capacity is very low. Natural fertility is low.

A large part of this soil is in natural vegetation of open forest of longleaf and slash pine. The understory consists of waxmyrtle, St. Johnswort, pineland three-awn, and saw-palmetto.

Under natural conditions, this soil has very severe limitations for cultivated crops because of wetness and poor soil quality. The number of adapted crops is limited unless very intensive management practices are followed.

However, with good water control measures and soil improving measures, this soil has medium potential for a number of vegetable crops. A water control system is needed to remove excess water in wet seasons and to provide water through subsurface irrigation in dry seasons. Seedbed preparation should include bedding of the rows. Fertilizer and lime should be added according to the need of the crops.

This soil in its natural condition is poorly suited to citrus trees. It has low potential for trees, and then only after a carefully designed water control system that will maintain the water table below a depth of about 4 feet has been installed. Trees should be planted in beds, and a vegetative cover should be maintained between the trees. Regular applications of fertilizer and lime are needed.

The soil has high potential for improved pasture grasses. Pangolagrass, improved bahiagrass, and white clovers grow well when they are well managed. A water control system that will remove excess surface water after heavy rains is needed. Regular applications of fertilizer and lime are needed, and grazing should be controlled to prevent overgrazing and weakening of the plants.

This soil has low potential for longleaf and slash pines. A water control system to remove excess surface water is necessary if the potential productivity is to be realized. Seedling mortality and equipment limitations are the main management concerns. Slash pines are better suited to planting than other trees.

This soil has medium potential for septic tank absorption fields, dwellings without basements, small commercial buildings, local roads and streets, and playgrounds if proper water control measures are used. In addition, mounding is needed for absorption fields, and surface stabilization is needed for playgrounds. Potential is low for sanitary landfills and sewage lagoon areas if proper water control measures are used and the areas are sealed or lined with impervious material. The soil has low potential for shallow excavations if proper water control measures are used and side slopes are shored. Capability subclass IVw.

10—**Basinger fine sand, depressional.** This is a poorly drained soil in depressional areas in the flatwoods. It also is along the edges of lakes. Slopes are smooth to concave and range from 0 to 2 percent.

Typically, the surface layer is black fine sand about 7 inches thick. The subsurface layer is light gray fine sand about 18 inches thick. The subsoil is mixed dark brown and gray fine sand about 11 inches thick. To a depth of 80 inches or more is light gray fine sand.

Included with this soil in mapping are small areas of Anclote, Delray, Floridana, and Pompano soils. Also included are similar soils that have a thin organic surface layer and similar soils that have a black surface layer 10 to 14 inches thick. Many areas mapped as this soil in the Richloam Wildlife Management Area have a 10- to 14-inch thick black surface layer. Included soils make up about 25 percent of any mapped area.

This soil is covered with standing water for periods of 6 to 9 months or more in most years (fig. 6). Natural fertility is low, and response to fertilization is moderate. The internal drainage is naturally slow, and response to artificial drainage is rapid. This soil has low available water capacity.

A large acreage is in natural vegetation of bay, cypress, pop ash, cabbage palm, and water oaks. Other areas are covered with maidencane, St. Johnswort, water lilies, pickerelweed, and other plants that tolerate wetness.

Under natural conditions, this soil is not suitable for cultivated crops or improved pastures. The potential for crops or pasture is very low because the lack of suitable drainage outlets makes an adequate drainage system difficult to establish. In their native state, these soils provide watering places and feeding grounds for many kinds of wading birds and other wetland wildlife.

This soil has low potential for pine trees. A good water control system to remove surface water is necessary if the potential is to be realized. Pond pine is better suited to planting than other trees.

This soil has low potential for septic tank absorption fields, dwellings without basements, small commercial buildings, local roads and streets, and playgrounds even if proper water control measures are used and fill material is added. In addition, absorption fields need to be mounded, and the surfaces of playgrounds need to be stabilized. Potential is very low for trench sanitary landfills and sewage lagoons even if standing water on the surface and the water table are controlled and special equipment is used. Potential for shallow excavations is very low even if standing water on the surface and the water table are controlled and side slopes are shored. Capability subclass VIIw.

11—**Blichton loamy fine sand, 0 to 2 percent slopes.** This is a nearly level, poorly drained soil in small areas on the uplands. Slopes are smooth to concave.

Typically, the surface layer is very dark gray loamy fine sand about 9 inches thick. The subsurface layer is about 19 inches thick. The upper 14 inches is dark grayish brown loamy fine sand, and the lower 5 inches is gray loamy fine sand. The subsoil is gray sandy clay loam to a depth of about 49 inches and gray sandy clay to a depth of about 63 inches. Below that is light gray clay.

Included with this soil in mapping are similar soils that have slopes of 2 to 5 percent. Also included are similar soils in which plinthite makes up less than 5 percent of the subsoil. Small areas of Flemington, Kanapaha, Nobleton, and Wauchula soils were included in mapping. Included soils make up about 16 percent of any mapped area.

In most years, under natural conditions, the water table is at a depth of less than 10 inches for cumulative periods of 1 to 4 months. In drier seasons it recedes to a depth of more than 40 inches. The available water capacity is low in the surface layers and medium to very high in the subsoil. Natural fertility is low. Permeability is rapid in the surface and subsurface layers and moderate to moderately slow in the subsoil.

The natural vegetation is dominantly slash, longleaf, and loblolly pines and oaks, hickory, magnolia, sweetgum, and pineland three-awn.

This soil has high potential for the production of cultivated crops if good management practices are used. A water control system is needed to remove excess water. Row crops need to be in a cropping sequence with close-growing, soil-improving cover crops. The rotation should include soil-improving crops three-fourths of the time. Crop residues and cover crops need to be plowed under. Seedbed preparation should include bedding of the rows, and fertilizer and lime should be added according to the needs of the crop.

This soil has medium potential for citrus trees. Areas that are subject to frequent freezing are not suited. A water control system should maintain the water table below a depth of 4 feet if citrus trees are grown.

The potential of this soil for improved pasture grasses is high. Pangolagrass, improved bahiagrass, and white clovers grow well when they are well managed. Water control measures are needed to remove excess surface water after heavy rains. Regular application of fertilizer and lime is needed, and grazing should be controlled to maintain vigor of the plants.

This soil has high potential for longleaf and slash pines. Best results are achieved if excess surface water is removed.

This soil has medium potential for dwellings without basements and small commercial buildings if proper water control measures are used, constant moisture content is maintained, and footings and foundations are increased in size and strength. Potential is medium for septic tank absorption fields if proper water control measures are used and the soil is mounded. With surface stabilization and proper water control, the soil has medium potential for playgrounds. With proper water control, potential is high for trench sanitary landfills and shallow excavations. Potential for sewage lagoon areas is very high even if no special practices are used. Potential for local roads and streets is low when the unsuitable soil material is removed and replaced and the water table is adequately controlled. Capability subclass IIIw.

12—Blichton loamy fine sand, 2 to 5 percent slopes. This is a gently sloping, poorly drained soil that is commonly in small areas on the uplands. Slopes are smooth to concave.

Typically, the surface layer is black loamy fine sand about 7 inches thick. The subsurface layer is grayish brown loamy fine sand to a depth of about 22 inches. The upper 7 inches of the subsoil is grayish brown sandy loam mottled with yellowish red and dark red. The remainder of the subsoil, extending to a depth of 60 inches or more, is grayish brown sandy clay loam that has plinthite content of about 6 percent and that is distinctly mottled with dark red and yellowish red.

Included with this soil in mapping are similar soils that have plinthite content of less than 5 percent in the subsoil. Also included are small areas of Nobleton, Flemington, Wauchula, and Kanapaha soils. Included soils make up about 18 percent of any mapped area.

The water table is at a depth of less than 10 inches for cumulative periods of 1 to 4 months during most years. In the drier season, it recedes to a depth of more than 40 inches. Permeability is rapid in the surface layer and moderate to moderately slow in the subsoil. The available water capacity is low in the surface layer and medium to very high in the subsoil.

The natural vegetation is dominantly oaks, hickory, magnolia, sweetgum, pineland three-awn, and slash, longleaf, and loblolly pines.

The potential of this soil is medium for cultivated crops if good management practices are used. Internal drainage or ditches used to intercept seepage water from adjacent higher elevations and to remove excess internal water are needed for good crop production. Erosion control measures and planting row crops on low beds are needed for maximum producton.

The potential for citrus trees on this soil is medium. Areas that are subject to frequent freezing temperatures should not be used for citrus trees. A water control system should maintain the water table below a depth of 4 feet if citrus is grown.

The potential for improved pasture grasses is high. Pangolagrass, improved bahiagrass, and white clovers grow well when they are well managed. Water control measures are needed to remove excess surface water after heavy rains. Heavy applications of fertilizer and lime are needed, and grazing should be controlled to maintain vigor of the plants.

This soil has high potential for longleaf and slash pines. Best results are achieved when excess surface water is removed.

This soil has medium potential for dwellings without basements and small commercial buildings if proper water control measures are used, constant moisture content is maintained, and footings and foundations are increased in size and strength. In addition, erosion must be controlled when the soil is used for small commercial buildings. With adequate water control, potential is high for trench sanitary landfills and shallow excavations. Potential is high for sewage lagoon areas if the land is shaped. Potential is medium for septic tank absorption fields if proper water control measures are used and the soil is mounded. With land shaping, proper water control, and surface stabilization, the soil has medium potential for playgrounds. Potential for local roads and streets is low even if the unsuitable soil material is replaced and the water table is adequately controlled. Capability subclass IIIw.

13—Blichton loamy fine sand, 5 to 8 percent slopes. This is a sloping, poorly drained soil. Slopes are smooth to concave.

Typically, the surface layer is dark gray loamy fine sand about 5 inches thick. The subsurface layer is 16 inches thick. The upper 9 inches is gray loamy fine sand, and the lower 7 inches is light brownish gray loamy fine sand. The upper 3 inches of the subsoil is light brownish

gray fine sandy loam. Next, to a depth of about 55 inches, is gray sandy clay loam. Below is a layer of red, yellow, gray, and brown, mottled sandy clay.

Included with this soil in mapping are similar soils that are severely eroded. Also included are similar soils that have slopes of less than 5 percent or more than 8 percent. Small areas of Nobleton, Wauchula, and Flemington soils are also included. Included soils make up about 18 percent of any mapped area.

This soil is saturated during wet seasons. The available water capacity is low in the surface layer and medium to very high in the subsoil. Natural fertility is low. Permeability is rapid in the surface layer and moderate to moderately slow in the subsoil.

The native vegetation is dominantly slash, longleaf, and loblolly pines; oaks; hickory; magnolia; sweetgum; and pineland three-awn. The potential of this soil for cultivated crops is low because of the hazard of erosion and wetness. Crops respond fairly well to good management. Intensive erosion control measures are needed, and drains should be installed to remove excess water. Row crops should be planted on beds, and rows should be planted on the contour in alternating strips with cover crops.

Where this soil is relatively free from freezing temperatures, it has medium potential for citrus trees. Orange and grapefruit trees produce well if water control is adequate. Water seeping from soils on high elevations should be intercepted, and the water table should be lowered by tile or open drains. Trees should be planted on beds on the contour.

This soil has high potential for improved pastures. Pangolagrass, improved bahiagrass, and clovers produce well when they are well managed. They require fertilization and liming and controlled grazing for best yields. A good ground cover is also needed. This soil has high potential for longleaf and slash pines.

This soil has medium potential for dwellings without basements and small commercial buildings, but the moisture content must be evenly maintained, footings and foundations increased in size and strength, water controlled, and buildings designed for the soil slope. In addition, erosion must be controlled when the soil is used for small commercial buildings. With proper water control, potential is medium for septic tank absorption fields and trench sanitary landfills. Mounding is also needed for septic tank absorption fields, and land shaping is also needed for trench sanitary landfills. The soil has high potential for sewage lagoon areas and shallow excavations if the land is shaped and if proper water control measures are also used in shallow excavations. Potential for local roads and streets is low even if the unsuitable soil material is replaced and if the water table is controlled. Potential for playgrounds is low even with land shaping, surface stabilization, and proper water control. Capability subclass IVw.

14—Candler fine sand, 0 to 5 percent slopes. This is a nearly level to gently sloping, excessively drained soil in very large to small areas on uplands.

Typically, the surface layer is dark grayish brown fine sand about 4 inches thick. The subsurface layer is fine sand to a depth of about 48 inches. The upper 5 inches is brown, the next 11 inches is light yellowish brown, and the next 28 inches is brownish yellow. Below a depth of 48 inches is very pale brown fine sand containing lamellae of brown loamy fine sand about 1/16 to 1/8 inch thick and 1 to 4 inches long.

Included with this soil in mapping are small areas of Arredondo, Astatula, Lake, and Tavares soils. Also included are similar soils that have slopes of more than 5 percent. Included soils make up about 5 percent of any mapped area.

This soil has very low available water capacity in the upper 48 inches and low available water capacity below that depth. Permeability is very rapid in the upper 48 inches of the profile and rapid below. Natural fertility is low. The water table is below a depth of 80 inches.

Few areas of this soil have been cleared. Native vegetation consists of bluejack, post, and turkey oaks; and scattered longleaf and slash pines; and a sparse understory of indiangrass, chalky bluestem, pineland three-awn, panicum, and annual forbs.

The potential of this soil for cultivated crops is low because of poor soil quality. Intensive soil management practices are required when the soil is cultivated. Droughtiness and rapid leaching of plant nutrients reduce the variety of adapted crops and potential yields of crops that are adapted. A suitable cropping sequence keeps the soil in close-growing crops at least three-fourths of the time. Soil-improving crops and all crop residue are left on the ground or plowed under. Only a few crops produce good yields without irrigation. Irrigation of these crops is usually feasible where irrigation water is readily available.

The potential for citrus trees on this soil is medium in places relatively free from freezing temperatures. A good ground cover of close-growing plants is needed between the trees to protect the soil from blowing. Good yields can be obtained in some years without irrigation, but a well designed irrigation system to maintain optimum moisture conditions is needed to assure best yields.

The potential for improved pasture grasses is low. Deep rooting plants such as Coastal bermudagrass and bahiagrass are well adapted, but yields are reduced by periodic droughtiness. Regular fertilization and liming are needed. Grazing needs to be controlled to permit plants to recover from grazing and to maintain vigor.

The potential for commercial production of pine trees is low. The major concerns because of the sandy nature of the soil are the establishment of seedlings and the movement of equipment. Sand pine and slash pine are better suited to planting than other trees.

This soil has very high potential for dwellings without basements, small commercial buildings, and local roads and streets even if no corrective measures are taken. Potential is very high for septic tank absorption fields, but excessive permeability can cause pollution of ground

water. This soil has high potential for trench sanitary landfills if the area is sealed or lined with impervious material. It has low potential for sewage lagoon areas if the area is sealed or lined with impervious material and if the land is shaped. Potential for playgrounds is medium if the land is shaped and the surface is stabilized. Potential is high for shallow excavations if the side slopes are shored. Capability subclass IVs.

15—Candler fine sand, 5 to 8 percent slopes. This is an excessively drained, sloping soil on side slopes in sandhill areas on uplands. Slopes are smooth to concave.

Typically, the surface layer is dark brown fine sand about 6 inches thick. The fine sand subsurface layer extends to a depth of more than 80 inches. The upper 21 inches is yellowish brown; the next 33 inches is brownish yellow; the next 12 inches is very pale brown; and the lower part, between depths of 72 to 80 inches or more, is pale brown fine sand that has lamellae of strong brown loamy fine sand about 1/16 to 1/8 inch wide and 1 to 4 inches long.

Included with this soil in mapping are small areas of Astatula, Tavares, and Arredondo soils. Also included are Candler soils that have slopes of less than 5 percent or 8 to 12 percent. An area of severely eroded soils is also included in this mapping unit. This area is about 200 acres in size and is just south of the Hernando-Citrus County line and about 1 mile southwest of U.S. Highway 19. Special blowout symbols are used on the soil map to show this area. Included soils make up less than 10 percent of any mapped area.

The water table is normally below a depth of 80 inches. This soil has very low available water capacity in the upper 72 inches and low available water capacity below that depth. Permeability is very rapid in the upper 72 inches of the soil and rapid below. Natural fertility is low.

Few areas of this soil have been cleared. Native vegetation consists of bluejack, post, and turkey oaks; scattered longleaf and slash pines; and a sparse understory of indiangrass, chalky bluestem, pineland three-awn, hairy panicum, and annual forbs.

This soil has low potential for cultivated crops because of droughtiness, rapid leaching of plant nutrients, and strong slopes. It is not suitable for the most common cultivated crops.

The potential for citrus trees is medium. Good yields of fruit can be obtained some years without irrigation. For best yields, irrigation is used wherever water is available.

The potential for improved pasture grasses is low even if good management practices are used. Grasses such as Coastal bermudagrass and bahiagrass are better adapted than others. Clovers are not suited. Yields are reduced by periodic droughts. Regular fertilizing and liming are needed. Grazing should be greatly restricted to permit plants to maintain vigorous growth for highest yields and to provide good ground cover.

The potential of this soil is low for commercial production of pine trees. Sand pines are the best trees to plant. Seedling mortality and mobility of equipment are the major management concerns for commercial tree production.

This soil has very high potential for local roads and streets even if no corrective measures are taken. It has high potential for septic tank absorption fields, but excessive permeability can cause pollution of ground water. Potential for dwellings without basements is high, but buildings need to be designed to fit the slope. This soil has high potential for trench sanitary landfills if the land is shaped and if areas are sealed or lined with impervious material and high potential for small commercial buildings if the land is shaped and buildings are designed to fit the slope. Potential is medium for shallow excavations and playgrounds if the land is shaped; in addition, side slopes need to be shored for shallow excavations and the surface needs to be stabilized for playgrounds. Potential is low for sewage lagoons even if areas are sealed or lined with impervious material and the land is shaped. Capability subclass VIs.

16—Candler-Urban land complex. This complex is nearly level to gently sloping. It was formerly Candler fine sand, but much of it has been altered for use as building sites or covered with pavement or buildings (fig. 7). Most areas that are not covered with pavement and buildings are in lawns, vacant lots, or playgrounds and generally are so small and intermixed with Urban land that it is impractical to map them separately. The complex is near Spring Hill.

About 45 to 65 percent of the land is Candler fine sand. The rest is mostly Candler fine sand, but it has been reworked and reshaped. Typically, the soil has a surface layer of gray sand about 4 inches thick. The subsurface layer consists of various layers of pale brown, brown, and light yellowish brown fine sand to a depth of about 60 inches. Between depths of 60 and 80 inches is very pale brown fine sand that has lamellae of dark yellowish brown sandy loam and loamy fine sand that are 1/16 inch to 1 inch thick and about 4 inches long.

The water table is below a depth of 80 inches. Candler soil has very low available water capacity. Permeability is very rapid in the upper 60 inches and rapid below. It is very low in natural fertility and organic matter content. Twenty to 45 percent of the land area is covered with houses, streets, driveways, buildings, parking lots, and other related structures.

Included in mapping are small areas of other sandy soils, mostly Paola fine sand.

The soil that is not covered with manmade objects is mostly in lawn grasses and shrubs. Regular watering and applications of fertilizer are needed for good lawns. Turkey and bluejack oaks are common in this unit. A few scattered longleaf pine trees are also in this unit.

These soils in areas not covered by urban structures have very high potential for dwellings without basements, small commercial buildings, and local roads and streets even if no corrective measures are taken. Potential is also high for septic tank absorption fields, but excessive permeability can cause pollution of ground water in areas

of septic tank absorption fields. This soil has high potential for trench sanitary landfills and shallow excavations if areas are sealed or lined with impervious material. Side slopes must also be shored in shallow excavations. Potential for playgrounds is medium if the land is shaped and the surface is stabilized. Potential is low for sewage lagoon areas even if the land is shaped. Capability subclass IVs.

17—**Delray fine sand.** This is a very poorly drained, nearly level soil in depressions in the southwestern part of the county. Slopes are less than 1 percent.

Typically, the surface layer is black fine sand about 13 inches thick. The subsurface layer is fine sand to a depth of 55 inches. The upper 14 inches is dark gray, the next 8 inches is dark grayish brown, and the lower 20 inches is light brownish gray. The subsoil between depths of 55 and 75 inches is grayish brown sandy clay loam; below a depth of 75 inches, it is gray sandy clay loam mottled with light olive brown.

Included with this soil in mapping are small areas of Floridana and Anclote soils. Included soils make up about 15 percent of any mapped area.

Most areas of Delray soils are covered with standing water for 6 months or more in most years. Delray soils have medium available water capacity and medium natural fertility. Permeability is rapid in the surface layer and moderate to moderately rapid in the subsoil.

Natural vegetation is cypress, cattails, and dense stands of maidencane and sawgrass.

Under natural conditions, this soil is unsuitable for crops or improved pasture grasses. A water table above the surface much of the year severely restricts plant growth. An adequate water control system is difficult to establish because in most places suitable outlets are not available. Where a system can be installed, the soil has medium potential for production of improved pasture grasses.

The potential for pine trees is low. A good water control system designed to remove excess surface water is needed before trees can be planted.

This soil has medium potential for sewage lagoon areas if proper water control measures are used and standing water is controlled. Potential is low for septic tank absorption fields, even if fill material is added, proper water control measures are used, and areas are mounded. It is low for trench sanitary landfills, even if proper water control measures are used and standing water is controlled, and it is low for dwellings without basements, small commercial buildings, local roads and streets, and playgrounds, even if fill material is added and proper water control measures are used. Local roads and streets also need increased structural strength in foundations, and playgrounds also need surface stabilization. Potential is low for shallow excavations, even if proper water control measures are used, standing water is controlled, and side slopes are shored. Capability subclass VIIw.

18—**EauGallie fine sand.** This is a nearly level, poorly drained soil in large areas on low ridges in the flatwoods. Slopes are smooth to concave and range from 0 to 2 percent.

Typically, the surface layer is black fine sand about 5 inches thick. The subsurface layer is about 12 inches thick. The upper 6 inches is gray fine sand, and the lower 6 inches is grayish brown fine sand. The subsoil is weakly cemented fine sand to a depth of about 26 inches. The upper 3 inches is black, and the next 6 inches is dark reddish brown. To a depth of 36 inches is brown fine sand, and between depths of 36 and 48 inches is very pale brown fine sand. The next 24 inches is grayish brown fine sand. At a depth of about 72 inches is light brownish gray fine sandy loam.

Included with this soil in mapping are EauGallie soils that are underlain by soft limestone at a depth of about 60 to 90 inches. EauGallie soils underlain by limestone are generally west of U.S. Highway 19. Also included are small areas of Basinger, Myakka, Paisley, and Wabasso soils. Limestone boulders occur at random throughout areas of this soil, but make up a very small percentage of the mapping unit. Included soils make up about 18 percent of any mapped area.

In most years, under natural conditions, the water table is within a depth of 10 inches for 1 to 4 months and within a depth of 40 inches for more than 6 months. EauGallie soils have very low or low available water capacity in the sandy layers and moderate available water capacity in the loamy substratum. Natural fertility is low. Permeability is moderate to moderately rapid in the weakly cemented subsoil and loamy substratum and rapid in the other layers.

A large part of the acreage of this soil is in natural vegetation—an open forest consisting of longleaf pine, slash pine, and an understory of saw-palmetto, inkberry, waxmyrtle, and pineland three-awn.

These soils have very severe limitations for cultivated crops because of wetness and poor soil quality. Adapted crops are limited unless very intensive management practices are followed. The soils have medium potential for a number of vegetable crops. A water control system is needed to remove excess water in the wetter seasons and provide water for subsurface irrigation in dry seasons. Crop residues and soil improving crops should be plowed under. Seedbed preparation should include bedding of the rows.

The potential for citrus trees on this soil is low, and then only after a carefully designed water control system that maintains the water table below a depth of 4 feet has been installed. Trees should be planted on beds and a vegetative cover maintained between the trees; areas subject to freezing temperatures in winter are not suitable for citrus trees.

The potential for improved pasture grasses on this soil is medium. Pangolagrass, improved bahiagrass, and white clover grow well when well managed. Water control measures are needed to remove excess surface water after heavy rains. Regular application of fertilizer and lime are needed, and grazing should be controlled to prevent overgrazing and weakening of the plants.

The potential for pine trees is medium. Slash pines are better for planting than other trees. The main management problems are equipment limitations during periods of heavy rainfall, seedling mortality, and plant competition. For best results, a simple water control system to remove excess surface water should be installed.

This soil has medium potential for septic tank absorption fields, sewage lagoon areas, dwellings without basements, small commercial buildings, local roads and streets, and playgrounds if proper water control measures are used. In addition, mounding is needed for septic tank absorption fields, sealing or lining with impervious material is needed for sewage lagoon areas, and surface stabilization is needed for playgrounds. Even with proper water control and sealing or lining with impervious material, potential is low for trench sanitary landfills. The soil has low potential for shallow excavations even if the side slopes are shored and proper water control measures are used. Capability subclass IVw.

19—Electra Variant fine sand, 0 to 5 percent slopes. This is a nearly level to gently sloping, somewhat poorly drained soil on ridges on uplands. Slopes are smooth to concave.

Typically, the surface layer is fine sand about 5 inches thick. The upper 3 inches is dark gray, and the lower 2 inches is gray. The subsurface layer is white fine sand about 19 inches thick. The subsoil is weakly cemented, dark reddish brown loamy fine sand to a depth of 26 inches and weakly cemented, dark reddish brown fine sand to a depth of 30 inches. Next is dark yellowish brown fine sand to a depth of 44 inches and brown fine sand to a depth of 53 inches. The substratum extends below a depth of 80 inches. The upper 20 inches of the substratum is light brownish gray sandy clay loam, and the lower 7 inches is grayish brown sandy clay loam.

Included with this soil in mapping are small areas of similar soils in which the subsoil is weakly developed. Also included are small areas of Blichton, Myakka, Pomello, and Wauchula soils. Included soils make up about 12 percent of any mapped area.

In most years, under natural conditions, the water table is at a depth of 20 to 40 inches for cumulative periods of 4 months and recedes to a depth of more than 40 inches during drier periods. This soil has very low available water capacity in the surface layer and low to medium available water capacity below. Permeability ranges from rapid to moderate. Natural fertility is low.

Natural vegetation consists of sand live oak, scattered longleaf, slash, and sand pines, and an understory of pineland three-awn, saw-palmetto, runner oak, blueberry, creeping bluestem, chalky bluestem, indiangrass, low panicums, and numerous forbs.

This soil has low potential for cultivated crops because of droughtiness and rapid leaching of plant nutrients. It is not suitable for most commonly cultivated crops.

The potential for citrus trees is medium. Good yields of fruit can be obtained some years without irrigation, but for best yields irrigation should be used wherever water is available.

The potential for improved pasture grasses is low even though good management practices are used. Grasses such as bahiagrass are better adapted than others. Clovers are not suited. Yields are reduced by periodic droughts. Regular fertilizing and liming are needed. Grazing should be greatly restricted to permit plants to maintain vigorous growth for highest yields and to provide good ground cover.

The potential of this soil is low for commercial production of pine trees. Sand pines are the best trees to plant. Seedling mortality, mobility of equipment, and plant competition are the major management problems for commercial tree production.

With proper water control, this soil has high potential for trench sanitary landfills, dwellings without basements, small commercial buildings, and local roads and streets. Potential is medium for septic tank absorption fields, shallow excavations, sewage lagoon areas, and playgrounds. Proper water control measures are necessary for all of these uses. In addition, mounding is needed for septic tank absorption fields, land shaping and sealing or lining with impervious materials are needed for sewage lagoon areas, shoring of side slopes is needed for shallow excavations, and land shaping and surface stabilization are needed for playgrounds. Capability subclass VIs.

20—Flemington fine sandy loam, 0 to 2 percent slopes. This is a nearly level, poorly drained soil on the uplands. Slopes are smooth to concave.

Typically, the surface layer is very dark gray fine sandy loam about 5 inches thick. The subsoil is gray clay to a depth of 13 inches and light brownish gray clay to a depth of 36 inches. Below that, the subsoil is light gray clay to a depth of 81 inches or more.

Included with this soil in mapping are similar soils that have slopes of 2 to 5 percent. Also included are similar soils that have a dark colored surface layer 7 to 12 inches thick. Small areas of Blichton, Nobleton, Micanopy, and Paisley soils are also included. Included soils make up about 15 percent of any mapped area.

In most years, under natural conditions, the water table is perched in the A horizon. The upper part of the Bt horizon is saturated for 1 to 4 months during wet seasons. Flemington soils have medium available water capacity in the surface layer and medium to high available water capacity in the subsoil. Natural fertility is moderate. Permeability is rapid in the surface layer and very slow in the subsoil.

The native vegetation consists of slash and longleaf pines, hickory, sweetgum, southern magnolia, and laurel and water oaks in the overstory. The understory consists of flowering dogwood, American hornbeam, hop hornbeam, southern redcedar, American holly, American beautyberry, huckleberry, and deertongue.

This soil has severe limitations for cultivated crops because of wetness. The very slowly permeable subsoil makes a water control system difficult to establish and maintain. With adequate water control, however, the soil

has medium potential for cultivated crops. Excess water on the surface and in the soil needs to be removed quickly. Seedbeds should be well prepared, and rows should be bedded. Fertilizer and lime applied according to the needs of the crops are needed for highest yields.

The potential for citrus trees on this soil is low. A water control system that maintains the water table at a depth of about 4 feet is needed. Bedding of the land and planting the trees on the beds help provide good surface drainage. Areas subject to freezing temperatures are not suitable for citrus.

This soil has high potential for improved pasture grasses. Pangolagrass, improved bahiagrass, and white clovers grow well when properly managed. Water control measures are needed to remove excess water after heavy rains. Regular applications of fertilizer and lime are needed, and grazing should be controlled to maintain vigor of the plants.

The potential of this soil for pine trees is high. Excess water needs to be removed from the surface for best results. The movement of heavy equipment during rainy seasons can be a concern.

This soil has low potential for septic tank absorption fields, dwellings without basements, and small commercial buildings. Water control is necessary for all these uses; mounding is also needed for septic tank absorption fields, and constant soil moisture content and increased size and strength of footings and foundations are also needed for dwellings without basements and small commercial buildings. Potential is high for trench sanitary landfills and shallow excavations if proper water control measures are used and very high for sewage lagoon areas, even if corrective measures are not taken. With proper water control, potential is medium for playgrounds. Potential is very low for local roads and streets, even if poor soil material is replaced and proper water control measures are used. Capability subclass IIIw.

21—Flemington fine sandy loam, 2 to 5 percent slopes. This is a gently sloping, poorly drained soil on the uplands. Slopes are smooth to concave.

Typically, the surface layer is black fine sandy loam about 6 inches thick. The subsoil is dark gray clay to a depth of 9 inches, gray clay to a depth of 37 inches, and light gray clay to a depth of 80 inches or more.

Included with this soil in mapping are similar soils that have a dark surface layer more than 6 inches thick and similar soils that have slope of less than 2 percent. Also included are small areas of Blichton, Nobleton, Micanopy, and Paisley soils. Included soils make up about 12 percent of any mapped area.

This soil has a perched water table above the Bt horizon. The upper part of the Bt horizon is saturated for 1 to 4 months during wet seasons. This soil has medium available water capacity in the surface layer and medium to high available water capacity in the subsoil. Natural fertility is moderate. Permeability is rapid in the surface layer and very slow in the subsoil.

The native vegetation consists of slash and longleaf pines, hickory, sweetgum, southern magnolia, and laurel and water oaks in the overstory. The understory consists of flowering dogwood, American hornbeam, hop hornbeam, southern redcedar, American holly, American beautyberry, huckleberry, and deertongue.

This soil has severe limitations for cultivated crops because of wetness. The very slowly permeable subsoil makes a water control system difficult to establish and maintain. With adequate water control, however, the soil has medium potential for cultivated crops. Excess water on the surface and in the soil needs to be removed quickly. Seedbeds should be well prepared, and rows should be bedded. Fertilizer and lime applied according to the needs of the crops are needed for highest yields.

The potential for citrus trees on this soil is low. A water control system that maintains the water table at a depth of about 4 feet is needed. Bedding of the land and planting the trees on the beds help provide good surface drainage. Areas subject to freezing temperatures should not be planted to citrus.

This soil has high potential for improved pasture grasses. Pangolagrass, improved bahiagrass, and white clovers grow well when properly managed. Water control measures are needed to remove excess surface water after heavy rains. Regular applications of fertilizer and lime are needed, and grazing should be controlled to maintain vigor of the plants.

The potential of this soil for pine trees is high. Excess water needs to be removed from the surface for best results. The movement of heavy equipment during rainy seasons can be a concern.

This soil has high potential for trench sanitary landfills and shallow excavations if proper water control measures are used and high potential for sewage lagoon areas if the land is shaped. Potential is low for septic tank absorption fields, dwellings without basements, and small commercial buildings. Water control is necessary for all these uses; mounding is also needed for septic tank absorption fields, and constant soil moisture content and increased the size and strength of footings and foundations are also needed for dwellings without basements and small commercial buildings. With proper water control and land shaping, potential is medium for playgrounds. Potential is very low for local roads and streets even if poor soil material is replaced and proper water control measures are used. Capability subclass IIIw.

22—Flemington fine sandy loam, 8 to 12 percent slopes. This is a strongly sloping, poorly drained soil on the uplands. Slopes are smooth to concave.

Typically, the surface layer is very dark gray fine sandy loam about 3 inches thick. The subsoil to a depth of 9 inches is dark gray clay. Below this to a depth of 80 inches or more is light gray clay.

Included with this soil in mapping are severely eroded spots and a few shallow gullies. A few soils that have a thick, black surface layer are included. Also included are small areas of Blichton, Nobleton, Micanopy, and Paisley

soils and few areas of similar soils that have slopes of less than 8 percent or more than 12 percent. Included soils make up about 20 percent of any mapped area.

Under natural conditions this soil is saturated for 1 to 4 months during most years. Seepage water comes to the surface during wet seasons. This soil has medium available water capacity in the surface layer and medium to high available water capacity in the subsoil. Natural fertility is moderate. Permeability is rapid in the surface layer and very slow in the subsoil.

The native vegetation consists of slash and longleaf pines, hickory, sweetgum, southern magnolia, and laurel and water oaks in the overstory. The understory consists of flowering dogwood, American hornbeam, hop hornbeam, southern redcedar, American holly, American beautyberry, huckleberry, and deertongue.

This soil is not suited to cultivated crops because of wetness and steepness of slope.

The potential of this soil for citrus trees is low. Water control to remove excess internal water and to retard surface runoff is difficult to maintain. A good cover of close growing crops is needed between the trees to protect the soil from erosion. The trees require regular applications of fertilizer and lime.

The potential of this soil for improved pasture grasses is medium. Pangolagrass, bahiagrass, and clovers grow well for grazing, but they must be fairly well distributed to prevent overgrazing. Regular applications of plant nutrients are needed for best yields and a good ground cover.

The potential for pine trees on this soil is high. Plant competition and movement of heavy equipment are the main management concerns.

This soil has medium potential for trench sanitary landfills, sewage lagoons, and shallow excavations if the land is shaped. Proper water control is also needed for trench sanitary landfills and shallow excavations. Potential is low for septic tank absorption fields, even if the land is shaped, proper water control measures are used, and the area is mounded. Potential is low for playgrounds, and there are no known practical measures to overcome the limitations. Potential is low for dwellings without basements and small commercial buildings, even if constant moisture content is maintained, footings and foundations are increased in size and strength, water is controlled, and buildings are designed to fit the slope. Erosion control is needed where small commercial buildings are constructed. Even with land shaping, replacement of poor soil material, and proper water control, potential is very low for local roads and streets. Capability subclass VIw.

23—Floridana fine sand. This is a nearly level, very poorly drained soil in depressions. Slopes are smooth to concave and are less than 2 percent.

Typically, the surface layer is fine sand about 16 inches thick. The upper 9 inches is black, and the lower 7 inches is very dark gray. The subsurface layer is about 11 inches thick. The upper 6 inches is grayish brown fine sand, and the lower 5 inches is light gray fine sand. The subsoil is gray sandy clay loam to a depth of 65 inches; it has a few pockets of sandy loam. To a depth of 80 inches or more, it is light gray sandy clay loam.

Included with this soil in mapping are small areas of Anclote, Delray, and Okeelanta soils. Also included are similar soils that have yellowish layers above the subsoil. Included soils make up about 15 percent of any mapped area.

Water stands on this soil for more than 6 months in most years. It has medium available water capacity and medium natural fertility. Permeability is rapid in the surface layer and moderate in the subsoil.

Natural vegetation consists of cypress, cattails, and dense stands of maidencane and sawgrass.

Under natural conditions, this soil is unsuitable for crops. The water table, which is above the surface most of the year, severely restricts plant growth. Adequate water control systems are difficult to establish because in most places suitable outlets are not available. If a water control system can be installed, however, the potential production of good quality pasture is medium.

This soil has high potential for longleaf and slash pines. A good water control system designed for the removal of excess water is needed before trees can be planted.

This soil has low potential for septic tank absorption fields, even if proper water control measures are used, fill material is added, and areas are mounded. Potential is low for trench sanitary landfills, sewage lagoon areas, and shallow excavations, even if proper water control measures are used and standing water is controlled; in addition, areas used for sewage lagoons need to be sealed or lined with impervious material and the side slopes of shallow excavations need to be shored. Even if proper water control measures are used and fill material is added, potential is low for dwellings without basements, small commercial buildings, local roads and streets, and playgrounds. Surface stabilization is needed in areas used for playgrounds. Capability subclass VIIw.

24—Floridana-Basinger association, occasionally flooded. This association consists of poorly drained and very poorly drained soils in regular and repeating patterns along streams and rivers in the eastern part of the county. The Floridana soils are in the lowest places, and the Basinger soils are slightly higher. The areas are mostly long and narrow and generally adjacent to the Withlacoochee River. Individual areas of each soil range from 5 to 25 acres.

The very poorly drained Floridana soils make up about 55 percent of the association. Typically, the surface layer is very dark gray loamy fine sand about 14 inches thick. The subsurface layer is dark grayish brown fine sand that extends to a depth of 24 inches. Beneath the subsurface layer is grayish brown sandy clay loam to a depth of 30 inches and gray sandy clay loam to a depth of 80 inches or more.

Floridana soils have rapid permeability in the surface layer and moderate permeability in the subsoil. The available water capacity and natural fertility are medium.

The organic matter content is high. The water table is at a depth of less than 10 inches for 1 to 4 months during most years, and the soil is frequently flooded.

The poorly drained Basinger soils make up about 30 percent of the association. Typically, the surface layer is black fine sand about 3 inches thick. The subsurface layer is light brownish gray fine sand about 5 inches thick. Beneath this to a depth of 24 inches is grayish brown fine sand intermixed with very dark grayish brown fine sand. Light gray and white fine sand extend to a depth of 80 inches or more.

Basinger soils have very rapid permeability. Available water capacity is very low. Natural fertility and organic matter content are low.

Minor soils make up about 15 percent of the association. Delray soils are the most extensive.

Most of this association remains in dense vegetation consisting of water oaks, cypress, sweetgum, hickory, cutgrass maidencane, sawgrass, swamp primrose, buttonbush, smartweed, sedges, and other water-tolerant plants.

This association in its native state is not suitable for cultivated crops or improved pasture. The susceptibility to flooding severely restricts its use. If the hazard of flooding can be removed, the soils have low potential for cultivated crops and medium potential for improved pasture grasses.

The areas of Floridana soils in this association have high potential for pine trees, but the areas of Basinger soils have low potential. A water control system that reduces the hazard of flooding and removes excess surface water is needed before trees can be planted.

These soils have low potential for septic tank absorption fields, trench sanitary landfills, sewage lagoons, shallow excavations, dwellings without basements, small commercial buildings, local roads and streets, and playgrounds, even if areas are protected from flood waters and proper water control measures are used. In addition, mounding is needed for septic tank absorption fields; sealing or lining with impervious material is needed for sewage lagoon areas; shoring of side slopes is needed for shallow excavations; and adding fill material is needed for dwellings without basements, small commercial buildings, local roads and streets, and playgrounds. Capability subclass VIw.

25—Floridana Variant loamy fine sand. This is a nearly level, very poorly drained soil in depressions and along poorly defined drainageways. Slopes are smooth to concave and are less than 2 percent.

Typically, the surface layer is about 15 inches thick. The upper 8 inches is black loamy fine sand, and the lower 7 inches is very dark gray fine sand. The subsurface layer is about 7 inches thick. The upper 3 inches is dark grayish brown fine sand, and the lower 4 inches is light gray fine sand. The subsoil is grayish brown sandy clay loam to a depth of about 42 inches and fine sandy loam with pockets of loamy sand to a depth of about 59 inches. Below that is gray sandy clay.

Included with this soil in mapping are similar soils in which the surface and subsurface layers are less than 20 inches thick. Also included are similar soils in which plinthite content in the subsoil is more than 5 percent. Small areas of Blichton and Kanapaha soils were also included. Included soils make up about 10 percent of any mapped area.

In most years, under natural conditions, the water table is above the surface for 6 months or more. Floridana Variant soils have medium available water capacity and medium natural fertility. Permeability is rapid in the surface layer, moderate to moderately rapid in the upper part of the subsoil, and slow below.

The natural vegetation in some places is blackgum, cypress, red maple, water oak, willow, pond and slash pines, and an understory of fedder bush, waxmyrtle, and inkberry. In other areas it is dense stands of maidencane.

Under natural conditions, this soil is unsuitable for crops. The water table, which is above the surface most of the year, severely restricts plant growth. Adequate water control systems are difficult to establish because in most places suitable outlets are not available. If a water control system can be installed, however, the potential production of good quality pasture is medium.

This soil has high potential for longleaf and slash pines. A good water control system designed for the removal of excess water is needed before trees can be planted.

This soil has low potential for dwellings without basements, small commercial buildings, local roads and streets, playgrounds, and septic tank absorption fields even if proper water control measures are used and fill material is added; mounding is needed for septic tank absorption fields, and surface stabilization is also needed for playgrounds. Potential is low for trench sanitary landfills and sewage lagoons even if standing water and the water table are controlled. Potential is very low for shallow excavations even if side slopes are shored and proper water control measures are used. Capability subclass VIIw.

26—Homosassa mucky fine sandy loam. This is a very poorly drained soil in tidal marshes. It is underlain by limestone between depths of 20 and 40 inches.

Typically, the surface layer is 15 inches thick. The upper 2 inches is black mucky fine sandy loam, the next 6 inches is very dark gray mucky fine sandy loam, and the lower 7 inches is very dark gray loamy fine sand. Below that is 12 inches of dark grayish brown loamy fine sand. Between depths of 27 and 33 inches is white soft limestone containing fragments of hard limestone. Below a depth of 33 inches is hard limestone.

Included with this soil in mapping are small areas of Lacoochee and Weekiwachee soils. Included soils make up about 25 percent of any mapped area.

The water table fluctuates with the tide. The soil is flooded daily during normal high tides. The available water capacity is very high in the surface layer and medium below. Permeability is moderately rapid throughout the soil.

Native vegetation consists predominantly of junkus and seashore saltgrass, needlegrass rush, smooth cordgrass, sawgrass, and marshhay cordgrass.

The soil is not suitable for cultivated crops, pasture grasses, or woodland. The potential for these uses is very low because of the daily flood hazard, high salt content, and high sulfur content.

This soil has low potential for septic tank absorption fields, shallow excavations, dwellings without basements, small commercial buildings, and local roads and streets even if the areas are protected from tidal flooding and proper water control measures are used. In addition, mounding is needed for septic tank absorption fields, special equipment is needed for shallow excavations, special equipment and sealing or lining with impervious material are needed for trench sanitary landfills, and surface stabilization is needed for playgrounds. Capability subclass VIIIw.

27—**Hydraquents.** This is a nearly level, poorly drained residue of calcium carbonate and clay washed from limestone aggregates. This residue has been deposited mostly in large excavated areas, pits, and holding basins as much as 25 feet deep and surrounded by dikes (fig. 8). In places, however, it is in low areas or natural drainageways where the material has overflowed and settled out. In poorly defined drainageways, it is underlain at shallower depths by wet mineral soils. It has a chalky appearance.

Reaction is moderately alkaline throughout the profile. Texture is silty clay or clay throughout. Thickness ranges from 2 to 25 feet.

Included with this soil in mapping are similar soils that have texture of silt or silt loam. Included soils make up about 10 percent of any mapped area.

This unit is saturated all year. Water is on the surface at times and is controlled by the mining operations. Abandoned areas have a water table at various depths below the surface. This unit has very slow permeability throughout. The available water capacity is high, and natural fertility is moderate.

This soil is not suitable for cultivated crops, improved pasture grasses, or woodland. The potential for these uses is very low. The dominant vegetation is cattails, which provide good cover for wetland wildlife.

This soil has very low potential for septic tank absorption fields, dwellings without basements, small commercial buildings, local roads and streets, and playgrounds. There are no practical measures to overcome the adverse soil properties for these uses. Potential is very low for sewage lagoon areas even if special equipment and proper water control measures are used. Potential is low for trench sanitary landfill, even if proper water control measures are used. It is low for shallow excavations, even with use of special equipment and proper water control. Capability subclass VIIIw.

28—**Kanapaha fine sand.** This is a nearly level, poorly drained soil in low positions on uplands. Slopes are smooth to concave and range from 0 to 5 percent.

Typically, the surface layer is about 13 inches thick. The upper 7 inches is dark gray fine sand, and the lower 6 inches is grayish brown fine sand. The subsurface layer is about 37 inches thick. The upper 20 inches is gray fine sand, and the lower 17 inches is light gray fine sand. The subsoil is gray fine sandy loam to a depth of about 56 inches and gray sandy clay loam to a depth of 65 inches or more.

Included with this soil in mapping are similar soils that differ from Kanapaha fine sand by having a brownish, stained subsurface layer. Also included are small areas of Blichton, Nobleton, and Sparr soils. Included soils make up less than 12 percent of any mapped area.

In most years, under natural conditions, the water table is at a depth of less than 10 inches for cumulative periods of 1 to 3 months and between depths of 10 and 40 inches for 3 to 4 months. In drier seasons it recedes to a depth of more than 40 inches. Kanapaha soils have low available water capacity in the surface and subsurface layers and medium available water capacity in the subsoil. Natural fertility is low. Permeability is rapid in the surface layer and moderate to moderately slow in the subsoil.

The natural vegetation is a forest of oaks, sweetgum, maple, magnolia, hickory, slash, longleaf, and loblolly pines, and an understory of several bluestem species, longleaf uniola, hairy panicum, several three-awn species, and numerous forbs.

This soil has low potential for cultivated crops because of wetness and poor soil quality. The number of crops is limited unless very intensive management practices are followed. With good water control measures and soil improving measures, a number of crops can be grown. A water control system is needed to remove excess water in wet seasons and provide water through subsurface irrigation in dry seasons. Crop residues and soil improving crops should be plowed under. Seedbed preparation should include bedding in rows. Fertilizer and lime are added according to the need of the crop.

The potential for citrus trees on this soil is low. Areas in which the temperature frequently reaches the freezing point should be avoided. A carefully designed water control system should maintain the water table below a depth of about 4 feet. Trees should be planted on beds, and a vegetative crop should be maintained between the trees. Fertilizer and lime are applied as needed.

This soil has medium potential for improved pasture grasses. Pangolagrass, improved bahiagrass, and white clover grow well when they are well managed. Water control measures are needed to remove excess surface water after heavy rains. Regular applications of fertilizer and lime are needed, and grazing should be controlled to prevent overgrazing and weakening of the plants.

This soil has medium potential for pine trees. The major management concerns are mobility of equipment during periods of high rainfall and plant competition. Seedling mortality is usually high. Slash pines are better suited for planting than other trees. A simple water control system should be installed to remove excess surface water.

This soil has medium potential for dwellings with basements and high potential for trench sanitary landfills and shallow excavations if proper water control measures are used. Potential is medium for small commercial buildings and local roads and streets if proper water control measures are used and the structural strength of foundations is increased. It is medium for playgrounds if the surface is stabilized and proper water control measures are used. Potential is low for septic tank absorption fields, even if proper water control measures are used and areas are mounded. It is high for trench sanitary landfills if proper water control measures are used. Capability subclass IIIw.

29—Kendrick fine sand, 0 to 5 percent slopes. This is a well drained, nearly level to gently sloping soil in large to small areas on uplands. Slopes are smooth to concave.

Typically, the surface layer is dark grayish brown fine sand about 4 inches thick. The subsurface layer is fine sand about 24 inches thick. The upper 7 inches is yellowish brown, and the lower 17 inches is brownish yellow. The subsoil is at a depth of 28 inches. The upper 6 inches is yellowish brown fine sandy loam, the next 11 inches is yellowish brown sandy clay, and the next 18 inches is mottled strong brown, dark red, and light gray sandy clay. Below a depth of about 63 inches, the subsoil is mottled strong brown, dark red, and light gray sandy clay loam that has a few pockets of dark gray sandy loam.

Included with this soil in mapping are small areas of Arredondo, Blichton, and Nobleton soils. Also included are small areas of Kendrick soils that have slopes of 5 to 8 percent. Included soils make up about 15 percent of any mapped area.

In most years, under natural conditions, the water table is below a depth of 72 inches. Kendrick soils have low available water capacity in the surface and subsurface layers and medium available water capacity in the subsoil. Natural fertility is moderate. Permeability is rapid above the subsoil and moderate in the subsoil.

The natural vegetation is a forest of longleaf, loblolly, and slash pines, magnolia, dogwood, laurel, live and water oaks, and an understory of bluestem species, indiangrass, hairy panicum, and annual forbs.

This soil has moderate potential for the production of cultivated crops. The main limitations are the hazards of erosion and droughtiness. Moderate erosion control measures are needed in more sloping areas. A cropping sequence that includes cover crops on the land at least half of the time is needed. Crop residues and soil improving crops should be plowed under. Fertilizer and lime should be added according to the need of the crop.

This soil has very high potential for citrus trees except in areas that are subject to frequent freezing. A good ground cover is needed between the trees to protect the soil from blowing and from water erosion. Fertilizer and lime are needed for high yields.

The potential for improved pasture grasses is medium. The best grasses to plant are pangolagrass and improved bahiagrass. They require fertilizing, occasional liming, and controlled grazing to maintain vigorous plants for highest yields and good ground cover.

The potential for pine trees is high. Moderate seedling mortality, equipment limitation, and plant competition are the main management concerns. Slash pine and loblolly pine are better suited to planting than other trees.

This soil has medium potential for dwellings with basements and high potential for trench sanitary landfills and shallow excavations if proper water control measures are used. Potential is medium for small commercial buildings and local roads and streets if proper water control measures are used and the structural strength of foundations is increased, and medium for playgrounds if the surface is stabilized and proper water control measures are used. Potential is low for septic tank absorption fields if proper water control measures are used and areas are mounded, and high for trench sanitary landfills if proper water control measures are used. Capability subclass IIe.

30—Lacoochee fine sandy loam. This is a nearly level, poorly drained soil in low, broad, tidal marsh areas. Slopes are smooth to concave and range from 0 to 2 percent.

Typically, the surface layer is light gray fine sandy loam about 6 inches thick. It is high in carbonates. The subsurface layer is grayish brown loamy fine sand about 2 inches thick. The subsoil is yellowish brown loamy fine sand to a depth of about 15 inches. Below this is white limestone.

Included with this soil in mapping are similar soils that do not have a highly calcareous surface layer. Also included are similar soils in which limestone is below a depth of 20 inches. The underlying limestone has cracks and solution holes, and in many places the soil has a loamy subsoil. Also included are small areas of Aripeka and Homasassa soils. Included soils make up about 30 percent of any mapped area.

The water table fluctuates with the tide, and the soil is frequently flooded during normal high tides. The available water capacity is high in the surface layer and medium below. Permeability is moderate in the surface layer and moderately rapid below.

The natural vegetation is seashore saltgrass, needlegrass rush, and Gulf cordgrass. Vegetation is sparse in many places.

This soil is not suitable for cultivated crops, pasture grasses, or woodland in its native state. The potential for these uses is very low because of the daily flood hazard, high salt content, and high sulfur content.

This soil has low potential for septic tank absorption fields, even if areas are protected from tidal flooding and are mounded and proper water control measures are used. It has low potential for shallow excavations if areas are protected from tidal flooding, proper water control measures are used, and special equipment is used. This soil has low potential for dwellings without basements, small commercial buildings, and local roads and streets if areas are protected from tidal flooding, proper water control measures are used, and footings and foundations are enlarged and strengthened. Potential is very low for

trench sanitary landfills, sewage lagoon areas, and playgrounds, even if areas are protected from tidal flooding and proper water control measures are used. In addition, special equipment and sealing or lining with impervious material is needed for trench sanitary landfills, and the surface needs to be stabilized for playgrounds. Capability subclass VIIIw.

31—Lake fine sand, 0 to 5 percent slopes. This is an excessively drained, nearly level to gently sloping soil along ridgetops and low hillsides in the uplands. Slopes are smooth to concave.

Typically, the surface layer is dark brown fine sand about 8 inches thick. The underlying layers are fine sand to a depth of 82 inches or more. The upper 26 inches is yellowish brown, the next 9 inches is strong brown, and the lower 39 inches is reddish yellow.

Included with this soil in mapping are small areas of Candler and Arredondo soils. Included soils make up less than 15 percent of any mapped area.

Lake soils have very low available water capacity in all layers. Permeability is rapid throughout. Natural fertility is low, and response to fertilizers is moderate.

Native vegetation consists of bluejack, blackjack, turkey, and live oaks; scattered longleaf pines; and an understory of scattered saw-palmetto, pineland three-awn, bluestem, and paspalum.

The potential of this soil for cultivated crops is low because of poor soil quality. Intensive soil management practices are required when the soil is cultivated. Droughtiness and rapid leaching of plant nutrients reduce the variety of crops. Soil improving crops and all crop residues should be left in the ground or plowed under. Only a few crops produce good yields without irrigation. Irrigation of these crops is usually feasible where water is readily available.

The potential for growing trees on this soil is medium in places relatively free from freezing. A good ground cover of close-growing plants is needed between the trees to protect the soil from blowing or washing. Good yields of oranges and grapefruit can be obtained in some years without irrigation, but a well designed irrigation system to maintain optimum moisture conditions is needed to assure best yields.

The potential for production of improved pasture grasses is low. Deep-rooting plants such as Coastal bermudagrass and bahiagrass are well adapted, but yields are reduced by periodic droughts. Regular fertilizing and liming are needed. Grazing should be controlled to permit plants to recover from grazing and to maintain vigor.

The potential for pine trees on this soil is medium. Slash pine is the best tree to plant.

This soil has very high potential for dwellings without basements and local roads and streets even if no corrective measures are taken, very high potential for septic tank absorption fields although the excessive permeability rate can cause pollution of ground water, and very high potential for small commercial buildings if erosion is controlled. Potential is high for trench sanitary landfills if the areas are sealed and lined with impervious material. It is high for shallow excavations if the side slopes are shored, and it is high for playgrounds if the land is shaped and the surface is stabilized. Even with land shaping, potential is low for sewage lagoon areas. Capability subclass IVs.

32—Masaryk very fine sand, 0 to 5 percent slopes. This is a nearly level to gently sloping, moderately well drained soil on broad ridges around Masaryktown. Slopes are smooth to concave.

Typically, the surface layer is dark gray very fine sand about 3 inches thick. The subsurface layer is about 67 inches thick. The upper 10 inches is pale brown very fine sand, the next 11 inches is very pale brown very fine sand, and the lower 46 inches is white very fine sand. To a depth of 74 inches the subsoil is mixed light brownish gray and yellowish brown very fine sandy loam, and to a depth of about 90 inches it is grayish brown very fine sandy loam.

Included with this soil in mapping are similar soils that are sandy to a depth of 80 inches or more. Also included are small areas of Kendrick and Sparr soils. Included soils make up about 18 percent of any mapped area.

This soil has a perched water table at a depth of 40 to 60 inches for 1 to 2 months and at a depth of 60 to 72 inches for 2 to 4 months in most years. It has low available water capacity in the surface and subsurface layers and medium available water capacity in the subsoil. Natural fertility is low. Permeability is rapid in the surface and subsurface layers and moderately slow or moderate in the subsoil.

Native vegetation consists dominantly of blackjack, post, and live oaks; a few scattered turkey oaks, longleaf and slash pines; and an understory of pineland three-awn, creeping bluestem, lopsided indiangrass, hairy and low panicums, brownseed paspalum, knotroot bristlegrass, perennial legumes, and annual weeds.

This soil has severe limitations for cultivated crops mainly because of droughtiness and rapid leaching of plant nutrients. The potential is medium if good practices are used and irrigation water is applied in dry seasons where it is available. Special soil-improving measures are needed when the soil is cultivated. Cultivated crops should be planted on the contour in alternating strips with close-growing crops. Cropping sequences should keep the soil under close-growing vegetation at least two-thirds of the time. Soil-improving crops and all crop residues should be left on the land or plowed under. All crops need frequent fertilizing and liming.

This soil has high potential for citrus trees where it is relatively free from freezing temperatures. A good ground cover of close-growing plants is needed between the trees to protect the soil from blowing. Good yields of fruit can usually be obtained without irrigation, but where water for irrigation is readily available, increased yields make irrigation feasible.

The potential of this soil is medium for improved pasture grasses if deep-rooting grasses such as Coastal

bermudagrass and bahiagrass are planted. Yields are occasionally restricted by extreme droughts. Grazing should be controlled to maintain vigorous plants for highest yields.

Potential productivity of slash and longleaf pines on this soil is medium.

This soil has very high potential for dwellings without basements, small commercial buildings, and local roads and streets even if no corrective measures are taken. Potential is high for septic tank absorption fields if proper water control measures are taken and high potential for playgrounds if the land is shaped and the surface is stabilized. If the areas are sealed or lined with impervious material and proper water control measures are used, potential is medium for trench sanitary landfills and sewage lagoon areas. In addition, land shaping is needed in areas used for sewage lagoons. Potential is also medium for shallow excavations if proper water control measures are used and side slopes are shored. Capability subclass IIIs.

33—Micanopy loamy fine sand, 0 to 2 percent slopes. This is a nearly level, somewhat poorly drained soil on the uplands. Slopes are smooth to concave.

Typically, the surface layer is very dark gray loamy fine sand about 5 inches thick. The subsurface layer is loamy fine sand to a depth of 17 inches. The upper 9 inches is dark gray, and the lower 3 inches is pale brown. The subsoil is yellowish brown fine sandy loam to a depth of 21 inches, yellowish brown sandy clay to a depth of about 25 inches, and gray sandy clay mottled in shades of red, yellow, and brown to a depth of more than 65 inches.

Included with this soil in mapping are similar soils that have slopes of 2 to 5 percent. Also included are similar soils in which plinthite content in the subsoil is more than 5 percent. Small areas of Blichton, Flemington, Kendrick, and Nobleton soils were included in mapping. Included soils make up about 12 percent of any mapped area.

In most years, under natural conditions, the water table is at a depth of 20 to 30 inches for 1 to 3 months and below a depth of 60 inches during drier periods. Micanopy soils have low available water capacity in the surface layer and medium to high available water capacity in the subsoil. Natural fertility is moderate. Permeability is rapid in the surface layer and slow in the subsoil.

The natural vegetation is a forest of loblolly, slash, and longleaf pines and magnolia, hickory, dogwood, and laurel, live, and water oaks. The understory is creeping bluestem, chalky bluestem, indiangrass, toothachegrass, pineland three-awn, saw-palmetto, inkberry, waxmyrtle, and numerous annual forbs.

This soil has high potential for the production of cultivated crops if good management practices are used. A water control system is needed to remove excess water. Good management includes cropping sequences that include close growing crops at least half of the time. Cover crops and soil improving crops should be plowed under. Proper seedbed preparation includes bedding of the rows and fertilizer and lime added according to the needs of the crops.

This soil has very high potential for citrus trees if proper water control is established. The trees should be planted in beds for best results. Areas subject to freezing temperatures should not be used for citrus trees.

The potential for improved pasture grasses is high. Bahiagrasses and white clovers grow well when properly managed. Water control measures are needed to remove excess surface water after heavy rains. Regular applications of fertilizer and lime are needed, and grazing should be controlled to maintain plant vigor.

The potential for pine trees on this soil is high. Slash pines are the better suited to planting than other trees.

This soil has high potential for trench sanitary landfills and medium potential for shallow excavations if proper water control measures are used. Potential is medium for dwellings without basements and small commercial buildings if footings and foundations are enlarged, structural strength is increased, proper water control measures are used, and constant soil moisture content is maintained. With surface stabilization and proper water control, potential is medium for playgrounds. Potential is low for septic tank absorption fields, even if proper water control measures are used and the size of the absorption field is increased. It is low for local roads and streets, even if unsuitable soil material is replaced and proper water control measures are used. Potential is very high for sewage lagoon areas, even if no corrective measures are taken. Capability subclass IIw.

34—Micanopy loamy fine sand, 2 to 5 percent slopes. This is a gently sloping, somewhat poorly drained soil on the uplands. Slopes are smooth to concave.

Typically, the surface layer is about 8 inches thick. The upper 4 inches is black loamy fine sand, and the lower 4 inches is very dark gray loamy fine sand. The subsurface layer is brown loamy fine sand about 7 inches thick. The subsoil is yellowish brown fine sandy loam to a depth of 18 inches and yellowish brown sandy clay to a depth of 25 inches. Below this to a depth of 55 inches is gray sandy clay. Below a depth of 55 inches is mixed gray, brown, yellow, and red sandy clay.

Included with this soil in mapping are similar soils in which plinthite content in the subsoil is more than 5 percent. Also included are small areas of Blichton, Flemington, Kendrick, and Nobleton soils. Included soils make up about 12 percent of any mapped area.

This soil has a water table at depth of 20 to 30 inches for 1 to 3 months during most years. In drier periods, it recedes below a depth of 60 inches. This soil has low available water capacity in the surface layer and medium to high available water capacity in the subsoil. Natural fertility is moderate. Permeability is rapid in the surface and subsurface layers and slow in the subsoil.

The natural vegetation is a forest of loblolly, slash, and longleaf pines, magnolia, hickory, dogwood, and laurel, live and water oaks, and an understory of creeping bluestem, chalky bluestem, indiangrass, toothachegrass, pineland three-awn, saw-palmetto, inkberry, waxmyrtle, and numerous annual forbs.

This soil has high potential for the production of cultivated crops if good management practices are used. A water control system is needed to remove excess water. Good management includes cropping sequences that include close-growing crops at least half of the time. Cover crops and soil-improving crops should be plowed under. Proper seedbed preparation includes bedding of the rows and fertilizer and lime added according to the needs of the crops.

This soil has very high potential for citrus trees if proper water control is established. The trees should be planted in beds for best results. Areas subject to freezing temperatures should not be used for citrus trees.

The potential for improved pasture grasses is high. Bahiagrasses and white clovers grow well when properly managed. Water control measures are needed to remove excess surface water after heavy rains. Regular applications of fertilizer and lime are needed, and grazing should be controlled to maintain plant vigor.

The potential for pine trees on this soil is high. Slash pines are better suited to planting than other trees.

This soil has high potential for trench sanitary landfills and medium potential for shallow excavations if proper water control measures are used. Potential is medium for dwellings without basements and small commercial buildings if footings and foundations are enlarged, structural strength is increased, proper water control measures are used, and constant soil moisture content is maintained. With land shaping, surface stabilization, and proper water control, potential is medium for playgrounds. Potential is low for septic tank absorption fields, even if proper water control measures are used and the size of the absorption field is increased. It is low for local roads and streets even if unsuitable soil material is replaced and proper water control measures are used. Potential is high for sewage lagoon areas if the land is shaped. Capability subclass IIw.

35—Myakka fine sand. This is a nearly level, poorly drained soil in broad areas in the flatwoods. Slopes are smooth to concave and range from 0 to 2 percent.

Typically the surface layer is black fine sand about 5 inches thick. The subsurface layer is light gray fine sand about 20 inches thick. The subsoil is weakly cemented fine sand about 17 inches thick (fig. 9). The upper 4 inches is very dark grayish brown, the next 5 inches is very dark gray, and the lower 8 inches is dark reddish brown. The next layer is light brownish gray fine sand to a depth of about 50 inches and light gray fine sand below.

Included with this soil in mapping are similar soils that differ from Myakka fine sand by having a black surface layer more than 8 inches thick. Also included are small areas of Adamsville, Basinger, EauGallie, and Pompano soils. Limestone boulders, 2 to 6 feet in diameter, are in some areas of this soil at a depth of about 60 to 100 inches. Included soils make up about 16 percent of any mapped area.

The water table is at a depth of less than 10 inches for 1 to 4 months in most years and recedes to a depth of more than 40 inches during very dry seasons. Myakka soils have medium available water capacity in the subsoil but very low available water capacity in the other layers. Permeability is rapid in the surface layer and substratum and moderate or moderately rapid in the subsoil. These soils have slow internal drainage and slow runoff. Natural fertility is low.

The natural vegetation is longleaf and slash pines with an understory of saw-palmetto, runner oak, inkberry, waxmyrtle, huckleberry, pineland three-awn, and scattered fetter bushes. Most areas remain in forest.

These soils have very severe limitations for cultivated crops because of wetness and poor soil quality. The adapted crops are limited unless very intensive management practices are followed. The soils have medium potential for a number of vegetable crops. A water control system is needed to remove excess water in the wetter seasons and provide water for subsurface irrigation in dry seasons. Crop residues and soil-improving crops should be plowed under. Seedbed preparation should include bedding of the rows.

The potential for citrus trees is low, and then only after a carefully designed water control system has been installed to maintain the water table below a depth of 4 feet. Trees should be planted on beds and a vegetative cover maintained between the trees. Areas subject to freezing should not be used for citrus trees.

The potential of this soil for improved pasture grasses is medium. Pangolagrass, improved bahiagrass, and white clover grow well when well managed. Water control measures are needed to remove excess surface water after heavy rains. Regular application of fertilizer and lime are needed, and grazing should be controlled to prevent overgrazing and weakening of the plants.

The potential for pine trees is medium. Slash pines are better suited to planting than other trees. The main management concerns are equipment limitations during periods of heavy rainfall, seedling mortality, and plant competition. For best results, a central water control system to remove excess surface water should be installed.

This soil has medium potential for septic tank absorption fields, sewage lagoon areas, dwellings without basements, small commercial buildings, local roads and streets, and playgrounds, if proper water control measures are used. In addition, mounding is needed for septic tank absorption fields, sealing or lining with impervious material is needed for sewage lagoon areas, and surface stabilization is needed for playgrounds. Potential is low for trench sanitary landfills, even if proper water control measures are used and the areas are sealed or lined with impervious material. It is also low for shallow excavations, even if the side slopes are shored and proper water control measures are used. Capability subclass IIIw.

36—Nobleton fine sand, 0 to 5 percent slopes. This is a nearly level to gently sloping, somewhat poorly drained soil on broad areas in the uplands. Slopes are smooth to concave.

Typically, the surface layer is dark grayish brown fine sand about 7 inches thick. The subsurface layer is about 26 inches thick. The upper 15 inches is brown fine sand, and the lower 11 inches is very pale brown fine sand. The subsoil is 52 inches thick. The top 4 inches is reddish yellow sandy clay loam; the next 23 inches is mottled yellowish red, strong brown, brown, and gray sandy clay; and the next 20 inches is light gray sandy clay loam. Below this, to a depth of about 85 inches, is grayish brown sandy clay loam.

Included with this soil in mapping are small areas of Blichton, Kendrick, and Micanopy soils. Included soils make up about 10 percent of any mapped area.

This soil has a perched water table at a depth of 20 to 40 inches for 1 to 4 months during the summer rainy season in most years. This soil has rapid permeability in the surface and subsurface layers and moderate to moderately slow permeability in the subsoil. Available water capacity is low in the surface layer and medium to high in the subsoil.

The natural vegetation is a forest of live, laurel, and water oaks, slash and longleaf pines; hickory; magnolia; and sweetgum. Understory vegetation is waxmyrtle, briers, and native grasses including bluestems, pineland three-awn, toothachegrass, panicums, and lopsided indiangrass.

This soil has high potential for the production of cultivated crops if good management practices are used. A water control system is needed to remove excess water. Good management includes cropping sequences that include close-growing crops at least half of the time. Cover crops and soil-improving crops should be plowed under. Seedbed preparation should include bedding of the rows and fertilizer and lime added according to the needs of the crops.

This soil has very high potential for citrus trees if proper water control is established. The trees should be planted in beds for best results. Areas subject to freezing temperatures should not be used for citrus trees.

The potential for improved pasture grasses is high. Bahiagrasses and white clovers grow well when properly managed. Water control measures are needed to remove excess surface water after heavy rains. Regular applications of fertilizer and lime are needed, and grazing should be controlled to maintain plant vigor.

The potential for pine trees on this soil is high. Slash pines are better suited to planting than other trees.

This soil has high potential for trench sanitary landfills and shallow excavations if proper water control measures are used, and high potential for sewage lagoon areas if the land is shaped. The soil has high potential for septic tank absorption fields if proper water control measures are used and the area of the field is larger than normal. Potential is medium for dwellings without basements and for small commercial buildings if proper water control measures are used and the footings and foundations are larger than normal. Potential for playgrounds is medium if the land is shaped and the surface is stabilized. Even if poor soil material is replaced and proper water control measures are used, potential is low for local roads and streets. Capability subclass IIw.

37—**Okeelanta-Terra Ceia association.** This association consists of very poorly drained soils in regular and repeating patterns. The landscape is a broad, low swamp area which is interspersed with a few low ridges. The Okeelanta soils are around the edges of the mapping unit, where the organic material is thinner. This association makes up a large part of Weekiwachee and Chassahowitzka Swamps. Mapped areas are mostly long and very broad, and individual areas of each soil range from about 25 to 300 acres.

Okeelanta soils make up about 60 percent of this association. Typically, they have layers of black and very dark gray muck to a depth of about 27 inches. Below the muck is light gray fine sand.

Okeelanta soils have a water table at or near the surface except during extended dry periods. They have rapid permeability, very high available water capacity, very high organic matter content, and moderate natural fertility.

Terra Ceia soils make up as much as about 30 percent of the association. Typically, Terra Ceia soils are black and dark grayish brown muck to a depth of 65 inches or more.

Terra Ceia soils have a water table on or above the surface except during extended dry periods. Runoff is slow. Internal drainage and permeability are rapid. These soils have very high available water capacity, very high organic matter content, and moderate natural fertility.

Minor soils make up about 10 percent of the association. Anclote soils are the most extensive of the minor soils. Also included are small areas of Myakka, Basinger, Delray, and Tavares soils. These soils, with the exception of Delray soils, are on low ridges scattered throughout the association.

This association is still in natural vegetation, which consists mostly of sweetgum, cypress, longleaf pine, cabbage palm, water oaks, and an understory of maidencane, sawgrass, royal, cinnamon ferns, and various aquatic plants.

Okeelanta and Terra Ceia soils are not suitable for cultivation in their native state. When a water control system is installed, however, they have high potential for some specialized crops and improved pasture grasses. These soils are not suitable for production of citrus trees or pine trees. The potential for habitat for wetland and woodland wildlife is high; shallow water areas are easily developed, and there is an abundance of food and cover.

These soils have very low potential for dwellings without basements, small commercial buildings, local roads and streets, and playgrounds if the organic material is removed, the area is backfilled with suitable soil material, and proper water control measures are used. Potential is very low for trench sanitary landfills and sewage lagoon areas, even if the areas are sealed or lined with impervious material. In addition, proper water control measures are needed for trench sanitary landfills and

special equipment is needed for sewage lagoon areas. Potential is very low for septic tank absorption fields, even if the organic material is removed, areas are backfilled with suitable material, the absorption field is mounded, and proper water control measures are used. Even with use of proper water control measures and special equipment, potential is low for shallow excavations. Capability subclass IIIw.

38—**Paisley fine sand.** This is a nearly level, poorly drained soil in low, broad areas of the Coastal Plain. Slopes are smooth to concave and range from 0 to 1 percent.

Typically, the surface layer is very dark gray fine sand about 7 inches thick. The subsurface layer is grayish brown fine sand to a depth of 13 inches. About 10 percent of the subsurface layer is cobbles and boulders. The subsoil is about 55 inches thick. The upper 4 inches is dark grayish brown sandy clay loam, the next 22 inches is gray sandy clay, and the lower 29 inches is light gray sandy clay loam. Below to a depth of about 95 inches is mixed light gray and gray clay.

Included with this soil in mapping are small areas of very poorly drained soils that have a weak, organic, stained layer 2 to 3 inches thick over the sandy clay subsoil. Included soils make up less than 10 percent of any mapped area.

This soil has a water table at a depth of less than 10 inches for 2 to 6 months and above the surface for less than 1 month during most years. It has low available water capacity in the surface layer and high available water capacity in the subsoil. Permeability is rapid in the surface layer and slow in the subsoil. Natural fertility is low, but response to fertilizer is good.

Natural vegetation consists of slash and longleaf pines, live oaks, sweetgum, and an understory of inkberry, pineland three-awn, cabbage palm, hairy panicum, low panicums, grapevines, and sedges.

Under natural conditions, this soil is not suitable for cultivated crops. The high water table restricts root development. Cobbles and boulders on the surface and in the soil damage equipment and interfere with its use.

This soil has high potential for improved pasture grasses if cobbles and boulders are not so numerous that they restrict use of equipment. Coastal bermudagrass, bahiagrasses, and clovers grow well with proper management. A water control system is necessary if the potential productivity is to be realized.

This soil has very high potential for slash and loblolly pines. During the wet season operation of equipment on this soil is difficult. Seedling mortality and plant competition are severe.

This soil has high potential for trench sanitary landfills and shallow excavations and medium potential for playgrounds if proper water control measures are used. Potential is low for dwellings without basements and small commercial buildings, even if proper water control measures are used and structural strength and size of footings and foundations are increased. Potential is low for septic tank absorption fields, even if proper water control measures are used and areas are mounded. Even if unsuitable soil material is replaced and proper water control measures are used, potential is very low for local roads and streets. Potential is very high for sewage lagoons, even if no corrective measures are taken. Capability subclass Vw.

39—**Paola fine sand, 0 to 8 percent slopes.** This is an excessively drained, nearly level to sloping soil on high ridges and hillsides in the sandhill areas of the county. Slopes are smooth to concave.

Typically, the surface layer is gray fine sand about 3 inches thick. The subsurface layer is white fine sand to a depth of about 26 inches. The subsoil is brownish yellow fine sand with a few tongues of white fine sand from the subsurface layer mixed in. Very pale brown fine sand extends to a depth of 80 inches, and white fine sand extends to a depth of 99 inches or more.

Included with this soil in mapping are small areas of Astatula, Candler, and Tavares soils. In most places included soils make up less than 10 percent of any mapped area.

The water table is below a depth of 72 inches. Paola soils have very low available water capacity and very low natural fertility. Permeability is very rapid throughout the profile.

Few areas of this soil have been cleared. The native vegetation consists of sand pine, scrub live oak, scattered turkey and bluejack oaks, and an undergrowth of scattered saw-palmetto, creeping dodder, rosemary, cacti, mosses, and lichens.

This soil has very low potential for cultivated crops because of extreme droughtiness and rapid leaching of plant nutrients. It is not suitable for most normally cultivated crops. The potential for improved pasture grasses is very low, even if good management practices are used. Grasses such as pangolagrass and bahiagrass are better adapted than others. Clovers are not suited.

This soil has low potential for citrus, and yields are low even if irrigation is used.

The potential of this soil is very low for commercial production of pine trees. Sand pines are the best trees to plant. Seedling mortality and mobility of equipment are the major management concerns for commercial tree production.

This soil has very high potential for septic tank absorption fields, although excessive permeability can cause pollution of ground water. Potential is also high for dwellings without basements, small commercial buildings, and local roads and streets even if no corrective measures are taken. This soil has high potential for trench sanitary landfills and shallow excavations if areas are sealed or lined with impervious material. In addition, side slopes need to be shored in areas used for shallow excavations. With land shaping and surface stabilization, potential for playgrounds is medium. Potential is low for sewage lagoon areas, even if the land is shaped. Capability subclass VIs.

40—Pineda fine sand. This is a poorly drained soil in nearly level areas of the flatwoods. Slopes range from 0 to 2 percent.

Typically, the surface layer is fine sand about 14 inches thick. The upper 4 inches is black, and the lower 10 inches is dark gray. The subsurface layer is fine sand about 21 inches thick. The upper 3 inches is pale brown and has yellowish brown mottles, the next 6 inches is yellowish brown and has strong brown mottles, the next 8 inches is brownish yellow and has yellowish brown mottles, and the next 4 inches is very pale brown. The subsoil extends to a depth of 80 inches or more. The upper 4 inches is greenish gray fine sandy loam and has olive mottles and tongues of white and very pale brown fine sand, the next 11 inches is greenish gray sandy clay loam and has light olive brown and olive yellow mottles, the next 12 inches is greenish gray sandy loam, and the lower 18 inches is light greenish gray fine sandy loam.

Included with this soil in mapping are small areas of Wabasso soils. Included soils make up less than 15 percent of any mapped area.

This soil has a water table at a depth of less than 10 inches during most years. It has low available water capacity to a depth of about 35 inches and medium available water capacity below. Permeability is rapid to a depth of about 35 inches and moderately rapid below. Natural fertility is low, but plants respond well to fertilizer.

Natural vegetation on Pineda fine sand consists of slash pine, cypress, live oak, waxmyrtle, cabbage palm, pineland three-awn, and sand cordgrass.

This soil has low potential for cultivated crops because of wetness and poor soil quality. The number of crops is limited unless very intensive management practices are followed. With good water control measures and soil-improving measures, a number of crops can be grown. A water control system is needed to remove excess water in wet seasons and provide water through subsurface irrigation in dry seasons. Crop residues and soil improving crops should be plowed under. Seedbed preparation should include bedding in rows. Fertilizer and lime are applied according to need of the crop.

The potential for citrus trees on this soil is low. Areas where the temperature frequently reaches the freezing point should not be used for citrus trees. A carefully designed water control system should maintain the water table below a depth of about 4 feet. Trees should be planted on beds and a vegetative crop maintained between the trees. Ferilizer and lime are applied as needed.

This soil has medium potential for improved pasture grasses. Pangolagrass, improved bahiagrass, and white clover grow well when they are well managed. Water control measures are needed to remove excess water from the surface after heavy rains. Regular applications of fertilizer and lime are needed, and grazing should be controlled to prevent overgrazing and weakening of the plants.

This soil has medium potential for pine trees. The major management concerns are plant competition and mobility of equipment during periods of high rainfall. Seedling mortality is usually high. Slash pines are better suited to planting than other trees. A simple water control system should be installed to remove excess surface water.

This soil has low potential for septic tank absorption fields, even if proper water control measures are used, fill material is added, and the areas are mounded. Potential is also low for dwellings without basements, small commercial buildings, and playgrounds, even if proper water control measures are used and fill material is added. Potential is low for local roads and streets, even if proper water control measures are used, fill material is added, and the structural strength of foundations is increased. Even with use of proper water control measures, potential is low for trench sanitary landfills, and even with use of proper water control measures and sealing or lining with impervious material, potential is low for sewage lagoon areas. Potential is very low for shallow excavations even if proper water control measures are used and side slopes are shored. Capability subclass IIIw.

41—Pits. Pits consist of excavations from which soil and geologic material have been removed primarily for use in road construction or foundations. Included with pits are waste materials, mostly mixtures of sand and sandy loam piled or scattered around the edges of the pits. Pits, locally called borrow pits, are mostly small, but there are a few large ones. Many of the pits have been abandoned.

Pits have little or no value or potential for farming, trees, or urban uses. Not placed in a capability subclass.

42—Pits-Dumps complex. This complex consists of pits from which limestone has been or is being removed and dumps where the limestone has been piled (fig. 10). It includes exposed limestone ready for mining and piles of topsoil that has been saved for future use in revegetating the area after mining operations have ceased. Individual areas of pits and dumps are impractical to map separately on the soil map. Most areas mapped as Pits-Dumps complex are still actively being mined. A few areas have been abandoned and are of little use as farmland. These areas have high potential for wildlife habitat and for their esthetic values—if they are reshaped and revegetated to conform with existing landscapes. Many of the pits contain water. Such areas are mapped separately on the soil map as water, and they have high potential for fish if they are stocked and managed properly.

Pits and dumps have little or no value or potential for farming, trees, or urban uses. Not placed in a capability subclass.

43—Pomello fine sand, 0 to 5 percent slopes. This is a nearly level to gently sloping, moderately well drained soil on low ridges in the flatwoods. Slopes are smooth to concave.

Typically, the surface layer is dark gray fine sand about 3 inches thick. The subsurface layer is fine sand to

a depth of 31 inches. The upper 2 inches is light brownish gray, and the lower 26 inches is white. The subsoil is fine sand coated with organic material and is about 21 inches thick. The upper 3 inches is very dark gray, and the lower 18 inches is dark brown. Below this, to a depth of 80 inches or more, is yellowish brown fine sand.

Included with this soil in mapping are similar soils that have loamy layers beneath the subsoil. Also included are small areas of Basinger and Myakka soils. Included soils make up about 5 percent of any mapped area.

The water table is at a depth of 24 to 40 inches for 1 to 4 months and at a depth of 40 to 60 inches for 8 months during most years. Available water capacity is very low except in the subsoil, where it is medium. Natural fertility is low. Permeability is very rapid in the surface layer and moderately rapid in the subsoil.

The natural vegetation on Pomello fine sand consists of dwarf and sand live oaks, saw-palmetto, longleaf and slash pines, pineland three-awn, inkberry, waxmyrtle, runner oak, fetter bush, creeping bluestem, broomsedge bluestem, splitbeard bluestem, lopsided indiangrass, switchgrass, panicum, and paspalums.

This soil has low potential for cultivated crops because of droughtiness and rapid leaching of plant nutrients. It is not suitable for most commonly cultivated crops.

The potential for citrus trees is medium. Good yields of fruit can be obtained some years without irrigation, but for best yields irrigation should be used wherever water is available.

The potential for improved pasture grasses is low, even though good management practices are used. Grasses such as bahiagrass are better adapted than others. Clovers are not suited. Yields are reduced by periodic droughts. Regular fertilizing and liming are needed. Grazing should be greatly restricted to permit plants to maintain vigorous growth for highest yields and to provide good ground cover.

The potential of this soil is low for commercial production of pine trees. Sand pines are better for planting than other trees. Seedling mortality, mobility of equipment, and plant competition are the major management problems for commercial tree production.

This soil has high potential for septic tank absorption fields and local roads and streets if proper water control measures are used. Potential is very high for dwellings without basements, even if no corrective measures are taken. It is very high for small commercial buildings if the land is shaped. Even with use of proper water control measures and with sealing or lining with impervious material, potential for trench sanitary landfill and sewage lagoon areas is low. Potential for playgrounds is medium if the land is shaped and the surface is stabilized. It is low for sewage lagoon areas, even if proper water control measures are used and the areas are sealed or lined with impervious material. Capability subclass VIs.

44—Pompano fine sand. This is a poorly drained, deep, sandy soil on broad, low flats and in poorly defined drainageways. Slopes are generally less than 1 percent.

Typically, the surface layer is black fine sand about 7 inches thick. The next layer is light brownish gray fine sand about 9 inches thick. Below it is light gray fine sand that extends to a depth of 80 inches or more.

Included with this soil in mapping are small areas of Adamsville, Anclote, and Basinger soils. In most places included soils make up less than 10 percent of any mapped area.

In most years, under natural conditions, the water table is at a depth of less than 10 inches for periods of 2 to 6 months. Even in the drier months, it is within a depth of 30 inches for nine months or more. The available water capacity is very low. Natural fertility is low, and permeability is very rapid.

A large part of the acreage is in natural vegetation: slash pines, cypress, cabbage palm, oaks, magnolia, and hickory. Understory plants are creeping bluestem, lopsided indiangrass, blue maidencane, Florida paspalum, pineland three-awn, low panicums, grassleaf goldaster, inkberry, and saw-palmetto.

Under natural conditions, this soil has very severe limitations for cultivated crops because of wetness and poor soil quality. The number of adapted crops is limited unless very intensive management practices are followed. However, with good water control and soil-improving measures, this soil has medium potential for a number of vegetable crops. A water control system is needed to remove excess water in wet seasons and provide water through subsurface irrigation in dry seasons. Seedbed preparation should include bedding of the rows. Fertilizer and lime should be added according to the need of the crops.

This soil in its natural condition is poorly suited to citrus trees. It has low potential for trees, and then only after a carefully designed water control system has been installed to maintain the water table below a depth of about 4 feet. Trees should be planted on beds and a vegetative cover maintained between the trees. Regular applications of fertilizer and lime are needed.

Potential is high for improved pasture grasses on this soil. Pangolagrass and improved bahiagrass and white clovers grow well when they are well managed. A water control system that removes excess surface water after heavy rains is needed. Regular applications of fertilizer and lime are needed, and grazing should be controlled to prevent overgrazing and weakening of the plants.

This soil has low potential for longleaf and slash pines. A water control system to remove excess surface water is necessary if the potential productivity is to be realized. Seedling mortality and equipment limitations are the main management concerns. Slash pines are the best trees to plant.

This soil has medium potential for septic tank absorption fields, dwellings without basements, small commercial buildings, local roads and streets, and playgrounds if proper water control measures are used. In addition, mounding is needed for absorption fields, and surface stabilization is needed for playgrounds. Potential is low for

sanitary landfills and sewage lagoon areas, even if proper water control measures are used and the areas are sealed or lined with impervious material. Even with use of proper water control measures and with shoring of side slopes, potential is low for shallow excavations. Capability subclass IVw.

45—Quartzipsamments, shaped, 0 to 5 percent slopes. This soil consists of nearly level to gently sloping, moderately well drained, sandy soils that have been reworked and shaped by earthmoving equipment. Most areas are around former sloughs and shallow ponds that have been deepened to form lakes or provide suitable building sites; other areas were low and have been filled in.

Quartzipsamments, shaped, are associated with Anclote, Basinger, Candler, Floridana, Myakka, Pomello, and Tavares soils, which have been mixed by man during movement and have no definite horizonation. Any one area can have material from one or several of these soils. Quartzipsamments, shaped, do not have an orderly sequence of layers, but are a variable mixture of lenses, streaks, and pockets within short distances. An individual area can be black, grayish, yellowish, brownish, or white, or a mixture of several of these colors. Seldom are two areas alike.

Reaction ranges from strongly acid to neutral throughout the soil. Filled areas range from about 2 to 5 feet in thickness. A few limestone pebbles are in the fill in places. Excavated areas and fill commonly occur together, and excavated material has been used as fill. Some areas have been excavated below the normal surface and contain no fill material, but have been reworked and shaped in place.

Included with this soil in mapping are similar soils that have the overburden but differ from Quartzipsamments, shaped, in that they have buried soils with weakly cemented horizons and horizons of sandy loam or sandy clay loam. Also included are similar soils that differ only by having fragments of weakly cemented sand or sandy loam and sandy clay loam in the fill. Included soils make up about 20 percent of any mapped area.

Drainage is variable, but the soil is dominantly moderately well drained. The water table is normally below a depth of 40 inches in most places. Available water capacity is very low. Permeability is very rapid. Natural fertility and organic matter content are low.

The existing vegetation consists of various scattered weeds.

These soils are poorly suited to most plants and require special treatment for lawn grasses and ornamental plants. Smoothing and shaping have made the areas moderately well suited to building sites, roadways, recreational areas, and related uses.

This soil has very high potential for dwellings without basements, small commercial buildings, and local roads and streets, even if no corrective measures are taken. Potential is high for septic tank absorption fields if proper water control measures are used and high for playgrounds if the land is shaped and the surface is stabilized. With use of proper water control methods and with sealing or lining with impervious materials, potential is medium for trench sanitary landfills. If proper water control methods are used and if side slopes are shored, potential is medium for shallow excavations. Potential is low for sewage lagoon areas, even if proper water control measures are used and areas are sealed or lined with impervious material. Not placed in a capability subclass.

46—Samsula muck. This is a very poorly drained, nearly level, organic soil in low depressional areas. Slopes are less than 2 percent.

Typically, the surface layer is muck about 25 inches thick. The upper 4 inches is very dark brown, the next 13 inches is black, and the next 8 inches is very dark gray. Beneath the muck is fine sand to a depth of 65 inches or more. The upper 3 inches is very dark gray, and the next 37 inches is grayish brown and has very dark grayish brown mottles.

Included with this soil in mapping are similar soils in which the organic material is less than 16 inches thick. Also included are small areas where the organic material is 52 inches deep or more. Included soils make up about 10 percent of any mapped area.

This soil has a water table at or near the surface for 6 to 12 months. Under natural conditions it will be covered with water for very long periods. This soil has very high available water capacity in the root zone. Permeability is rapid throughout. The natural fertility is moderate, and the organic matter content is very high.

The native vegetation is mostly loblolly bay and scattered cypress, maple, gum, and pine trees and a ground cover of greenbriers, ferns, and other aquatic plants.

In its natural state, this soil is not suitable for cultivated crops, but with an adequate water control system, it has high potential for some crops and improved pasture grasses. A well designed and maintained water control system is needed. The system should provide for removing excess water when crops are on the land and for keeping the soil saturated at other times. Fertilizers that contain phosphates, potash, and minor elements are needed. Heavy applications of lime are needed.

When the water is properly controlled, this soil has high potential for improved pasture grasses and clover. A water control system should maintain the water table near the surface to prevent excessive oxidation of the organic horizons. Fertilizers high in potash, phosphates, and minor elements are needed. Grazing should be controlled to permit maximum yields.

This soil is not suitable for citrus trees or pine trees.

This soil has very low potential for dwellings without basements, small commercial buildings, local roads and streets, and playgrounds if the organic material is removed, the areas are backfilled with suitable soil material, and proper water control measures are used. Potential is very low for trench sanitary landfills, even if the areas are sealed or lined with impervious materials and proper water control measures are used. Potential is

very low for sewage lagoon areas, even if the areas are sealed or lined with impervious material and special equipment is used. Potential is very low for septic tank absorption fields, even if the organic material is removed, areas are backfilled with suitable material, the absorption field is mounded, and proper water control measures are used. Potential is low for shallow excavations, even where proper water control measures and special equipment are used. Capability subclass IVw.

47—Sparr fine sand, 0 to 5 percent slopes. This is a nearly level to gently sloping, somewhat poorly drained soil on seasonally wet, sandy areas on uplands. Slopes are smooth to concave.

Typically, the surface layer is dark gray fine sand about 5 inches thick. The subsurface layer is about 56 inches thick. The upper 4 inches is brown fine sand, the next 21 inches is yellowish brown fine sand, and the lower 31 inches is very pale brown fine sand. The subsoil is light yellowish brown fine sandy loam to a depth of about 64 inches and light brownish gray sandy clay loam to a depth of about 80 inches.

Included with this soil in mapping are similar soils in which plinthite content in the subsoil is more than 5 percent. Also included are small areas of Arredondo, Kanapaha, Nobleton, and Tavares soils. Included soils make up about 15 percent of any mapped area.

This soil has a water table perched on the loamy materials for 1 to 4 months during most years. This soil has low available water capacity in the surface and subsurface layers and medium to high available water capacity in the subsoil. Natural fertility is low. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil.

The native vegetation consists of oaks, hickory, magnolia, sweetgum, and slash, longleaf, and loblolly pines. Some areas have an understory of inkberry, waxmyrtle, scattered saw-palmetto, and pineland three-awn.

The potential of this soil for most cultivated crops is low mainly because of droughtiness or poor soil quality. However, with good water control measures and soil-improving measures, a number of fruit and vegetable crops can be grown. For best yields, crops need to be irrigated during dry periods. Row crops should be used in sequence with close growing, soil-improving crops. The soil improving crops should be on the land three-fourths of the time. All crop residues and soil-improving crops should be plowed under. Seedbed preparation should include bedding of the rows. Fertilizer and lime need to be added according to the need of the crop.

This soil has very high potential for citrus trees. Management should include a water control system that maintains a water table below a depth of about 4 feet. A cover of close growing vegetation should be maintained between the trees to protect the soil from blowing in dry weather and from washing during heavy rains. Trees require regular application of fertilizer and lime.

The potential for improved pasture grasses is high. Pangolagrass, bahiagrass, and white clovers grow well when they are well managed. In some areas, a simple water control system is required for best yields. Regular applications of fertilizer and lime are needed, and grazing should be controlled to maintain vigor of the plants. The potential is medium for longleaf and slash pines. The main management concerns are the mobility of equipment, seedling mortality, and plant competition. Slash pine is better suited to planting than other species.

This soil has high potential for trench sanitary landfills, shallow excavations, dwellings without basements, and small commercial buildings if proper water control measures are used. It has high potential for playgrounds if the land is shaped and the surface is stabilized. Potential is medium for septic tank absorption fields if proper water control measures are used and if the area of the field is increased. It is medium for sewage lagoon areas if proper water control measures are used, if the land is shaped, and if the area is sealed or lined with impervious materials. Potential is medium for local roads and streets if proper water control measures are used and if structural strength is increased. Capability subclass IIIs.

48—Sparr fine sand, 5 to 8 percent slopes. This is a sloping, somewhat poorly drained soil. Slopes are smooth to concave.

Typically, the surface layer is dark grayish brown fine sand about 6 inches thick. The subsurface layer is 49 inches thick. The upper 6 inches is brown fine sand, the next 10 inches is yellowish brown fine sand, the next 13 inches is light yellowish brown fine sand, and the lower 20 inches is very pale brown fine sand. The upper 3 inches of the subsoil is yellowish brown fine sandy loam. To a depth of about 69 inches is grayish brown sandy clay loam. Below is a layer of light gray sandy clay loam.

Included with this soil in mapping are similar soils that are severely eroded. Also included are similar soils that have slopes of less than 5 percent or of more than 8 percent. Also included are small areas of Arredondo, Kanapaha, Nobleton, and Tavares soils. Included soils make up about 15 percent of any mapped area.

In most years, under natural conditions, the water table is at a depth of 20 to 40 inches for 2 to 6 months. The water table is usually perched on the loamy layers. Sparr soils have low available water capacity in the surface and subsurface layers and medium to high available water capacity in the subsoil. Natural fertility is low. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil.

Native vegetation consists of oaks, hickory, magnolia, sweetgum, and slash, longleaf, and loblolly pines. Some areas have an understory of inkberry, waxmyrtle, scattered saw-palmetto, and pineland three-awn.

This soil has low potential for cultivated crops because of droughtiness and the hazard of erosion. Erosion control measures consist of contour stripcropping and a cropping sequence that keeps the soil covered with close-growing, soil-improving crops for at least three-fourths of the time. Irrigation water should be applied in dry periods.

The potential for citrus trees on this soil is high. Water control systems that maintain good drainage to a depth of about 4 feet are needed. Planting the trees on beds helps provide good surface drainage. Close-growing vegetation should be maintained between the trees to protect the soil from blowing in dry weather and from washing during rains.

The potential for improved pasture grasses is high. Pangolagrass, bahiagrass, and white clovers grow well when they are well managed. Some areas may require simple drainage for best yields. Regular applications of fertilizer and lime are needed, and grazing should be controlled to maintain vigor of the plants.

This soil has medium potential for slash and longleaf pine trees. The main management concerns are the movement of equipment, seedling mortality, and plant competition. Slash pine is better for planting than other species.

This soil has high potential for trench sanitary landfills and shallow excavations if proper water control methods are used and the land is shaped. Potential is high for dwellings without basements if proper water control methods are used. It is high for small commercial buildings if the buildings are designed to fit the slope, erosion is controlled, proper water control methods are used, and the land is shaped. Potential is medium for playgrounds if the land is shaped and the surface is stabilized. If proper water control measures are used, the land is shaped, and the area of the field is increased, potential is medium for septic tank absorption fields. If proper water control measures are used, the land is shaped, and the area is sealed or lined with impervious material, potential is medium for sewage lagoon areas. Also, if proper water control measures are used and the strength of foundations is increased, potential is medium for local roads and streets. Capability subclass IVs.

49—Tavares fine sand, 0 to 5 percent slopes. This is a moderately well drained soil on low ridges and knolls throughout the county.

Typically, the surface layer is dark grayish brown fine sand about 4 inches thick. The next 4 inches is brown fine sand. Below this is 13 inches of very pale brown fine sand over 21 inches of light yellowish brown fine sand. Below this to a depth of 48 inches is very pale brown fine sand, and to a depth of 80 inches or more is white fine sand.

Included with this soil in mapping are small areas of Adamsville, Astatula, and Candler soils. Also included are small areas of Sparr soils. Included soils make up about 10 percent of any mapped area.

In most years, under natural conditions, the water table is at a depth of 40 to 60 inches except during very dry periods. This soil has very low available water capacity. Natural fertility is low. Permeability is very rapid.

The natural vegetation consists of slash and longleaf pines, blackjack, turkey, and post oaks; and an understory of pineland three-awn, creeping bluestem, lopsided indiangrass, hairy panicum, low panicums, purple lovegrass, and broomsedge bluestem.

This soil has low potential for most cultivated crops. Droughtiness and rapid leaching of plant nutrients limit the choice of plants and reduce potential yields of adapted crops. Soil management should include row crops on the contour and alternate strips of close-growing crops. Cropping sequences should include close-growing crops at least two-thirds of the time. All crops should be fertilized and limed. Soil-improving cover crops and all crop residue should be left on the ground or plowed under. Irrigation of high-value crops is usually feasible where irrigation water is readily available.

The potential for citrus trees on this soil is high in places relatively free from freezing temperatures. A good ground cover of close-growing vegetation is needed between the trees. Areas of citrus can normally be grown without irrigation, but irrigation to maintain optimum yields is usually feasible where irrigation water is readily available. Fertilizing and liming are needed.

The potential for pasture grasses is medium. Pangolagrass, Coastal bermudagrass, and bahiagrasses are well adapted. They produce good yields when they are fertilized and limed, and controlled grazing is needed to maintain vigorous plants for maximum yields.

The potential for pine trees is medium. Equipment limitations, seedling mortality, and plant competition are the main management concerns. Slash pines are better for planting than other trees.

This soil has very high potential for dwellings without basements, small commercial buildings, and local roads and streets, even if no corrective measures are taken. Potential is high for septic tank absorption fields if proper water control measures are used and high for playgrounds if the land is shaped and the surface is stabilized. Potential is medium for trench sanitary landfills if proper water control measures are used, and medium for shallow excavations if the side slopes are shored and proper water control measures are used. Potential is low for sewage lagoon areas, even if proper water control measures are used, the land is shaped, and the areas are sealed or lined with impervious materials. Capability subclass IIIs.

50—Udalfic Arents-Urban land complex. This complex is in the western part of the county near the Gulf of Mexico. Individual areas range from about 40 to 300 acres in size. About 30 to 50 percent of each area is Udalfic Arents, and 15 to 25 percent is Urban land—areas covered by houses, streets, highways, buildings, parking lots, and the like. The remainder of the area is canals leading to the Gulf.

Udalfic Arents consist of soil materials dug from canals through areas of former Aripeka, Homosassa, and Lacoochee soils. The material dug from the canals has been reworked and shaped into building sites. Udalfic Arents consist of mineral material and fragments of hard and soft limestone. Part of the former loamy layers is mixed throughout the soil. Arents do not have an orderly sequence of soil layers, but are a variable mixture of lenses, streaks, and pockets within short distances. Depth to

the fill material ranges from about 40 to 60 inches. Beneath the fill material in most places is a layer of the former soil, which in turn is underlain by limestone.

Included with this soil in mapping are a few small areas of Arents-Urban land complex. Also included are a few areas of sanitary landfills. These areas are scattered throughout the county and are labeled as sanitary landfills on the soil map. Sanitary landfills consist of alternating layers of refuse and soil material. Most areas of sanitary landfills are between 5 and 20 acres in size.

The water table is at a depth of 40 to 60 inches throughout the year. Permeability is variable. Natural fertility is low.

Present land use precludes the use of this soil for cultivated crops, pasture, citrus, or woodland. It is poorly suited to lawn grasses and shrubs unless topsoil is spread over the surface to make a suitable root zone.

Areas of this soil not covered by urban structures have very high potential for dwellings without basements, small commercial buildings, and local roads and streets, even if no corrective measures are taken. Potential is high for septic tank absorption fields, trench sanitary landfills, and shallow excavations if proper water control measures are used. It is high for sewage lagoon areas if the areas are sealed or lined with impervious materials and high for playgrounds if the surface is stabilized. Capability subclass VIs.

51—Wabasso fine sand. This is a nearly level, poorly drained soil in broad areas in the flatwoods. Slopes are less than 2 percent.

Typically, the surface layer is black fine sand about 3 inches thick. The subsurface layer is about 18 inches of gray fine sand. The subsoil is weakly cemented fine sand to a depth of about 34 inches. The upper 3 inches is black, the next 6 inches is dark reddish brown, and the lower 4 inches is dark brown. Below is pale brown fine sand to a depth of about 38 inches. The upper 7 inches of the substratum is light brownish gray sandy loam, the next 20 inches is grayish brown sandy clay loam, and the lower 15 inches is grayish brown sandy loam.

Included with this soil in mapping are Wabasso soils that are underlain by soft limestone and boulders at a depth of about 40 to 66 inches. Most of the Wabasso soils west of U.S. Highway 19 have the underlying limestone layer. Also included are small areas of EauGallie and Paisley soils. West of U.S. Highway 19, the Aripeka soils are commonly included in mapping. Limestone boulders occur at random throughout this soil but account for a very small percentage of the total acreage. Included soils make up about 20 percent of any mapped area.

In most years, under natural conditions, the water table is at a depth of 10 to 40 inches for more than 6 months. It is at a depth of less than 10 inches for less than 60 days in wet seasons and at a depth of more than 40 inches during very dry seasons. Wabasso soils have very low or low available water capacity in the sandy layers and medium available water capacity in the loamy substratum. Permeability is rapid in the sandy layers except for the subsoil. The subsoil and the loamy substratum have moderate permeability. Natural fertility is low.

The native vegetation consists of longleaf and slash pines and scattered cabbage palms and an understory of saw-palmetto, inkberry, waxmyrtle, creeping bluestem, indiangrass, little bluestem, Florida paspalum, pineland three-awn, panicums, deertongue, grassleaf goldaster, huckleberry, and runner oak.

This soil has severe limitations for cultivated crops because of wetness and poor soil quality. Adapted crops are limited unless very intensive management practices are followed. The soil has medium potential for a number of vegetable crops. A water control system is needed to remove excess water in the wetter seasons and provide water for subsurface irrigation in dry seasons. Crop residues and soil-improving crops should be plowed under. Seedbed preparation should include bedding of the rows.

The potential for citrus trees on this soil is low, and then only after a carefully designed water control system that maintains the water table below a depth of 4 feet has been installed. Trees should be planted in beds and a vegetative cover maintained between the trees. Areas subject to freezing temperatures should not be used for citrus trees.

The potential for improved pasture grasses on this soil is medium. Pangolagrass, improved bahiagrass, and white clovers grow well when well managed. Water control measures are needed to remove excess surface water after heavy rains. Regular application of fertilizer and lime is needed, and grazing should be controlled to prevent overgrazing and weakening of the plants.

The potential for trees is medium. Slash pines are better suited to planting than other trees. The main management concerns are equipment limitations during periods of heavy rainfall, seedling mortality, and plant competition. For best results, a simple water control system to remove excess surface water needs to be installed.

This soil has medium potential for dwellings without basements, small commercial buildings, and local roads and streets if proper water control measures are used. With proper water control and mounding, potential is medium for septic tank absorption fields; with proper water control and sealing or lining with impervious material, potential is medium for sewage lagoon areas. Potential is medium for playgrounds if proper water control and surface stabilization measures are used. Potential is low for trench sanitary landfills, even if proper water control measures are used and the areas are sealed or lined with impervious material. It is low for shallow excavations, even if the side slopes are shored and proper water control measures are used. Capability subclass IIIw.

52—Wauchula fine sand, 0 to 5 percent slopes. This is a nearly level to gently sloping, poorly drained soil on broad, low areas in the flatwoods and on hillsides in the uplands. Slopes are smooth to concave.

Typically, the surface layer is about 8 inches thick. The upper 3 inches is black, and the lower 5 inches is dark gray. Texture is fine sand. The subsurface layer is about 16 inches thick, and consists of light brownish gray fine sand. The subsoil is weakly cemented fine sand to a depth of 34 inches. The upper 4 inches is very dark gray, and the lower 3 inches is dark reddish brown. The next 3 inches is brown fine sand. Below is pale brown fine sand to a depth of 38 inches. The substratum is gray fine sandy loam about 5 inches thick. The next 31 inches is gray sandy clay loam, and the lower 6 inches is light brownish gray sandy clay loam.

Included with this soil in mapping are similar soils that have slopes of more than 5 percent. These steeper slopes are around the outer edges of the mapping unit in most places. Also included are small areas of Blichton, Electra Variant, Myakka, and Wabasso soils. Included soils make up about 20 percent of any mapped area.

In most years, under natural conditions, the water table is at a depth of less than 10 inches for 1 to 4 months each year and at a depth of 10 to 40 inches for the remainder of the year. During very dry periods, however, it drops below a depth of 40 inches. Wauchula soils have low available water capacity in the sandy surface and subsurface layers and medium to high available water capacity below. Permeability is rapid in the sandy surface and subsurface layers and moderate to rapid below. Natural fertility is low.

Natural vegetation consists of longleaf and slash pines and an understory of saw-palmetto, inkberry, waxmyrtle, creeping bluestem, indiangrass, little bluestem, Florida paspalum, pineland three-awn, panicums, deertongue, grassleaf goldaster, huckleberry, and runner oak.

This soil has severe limitations for cultivated crops because of wetness and poor soil quality. Adapted crops are limited unless very intensive management practices are followed. The soil has medium potential for a number of vegetable crops. A water control system is needed to remove excess water in the wetter seasons and provide water for subsurface irrigation in dry seasons. Crop residues and soil-improving crops should be plowed under. Seedbed preparation should include bedding of the rows.

The potential for citrus trees on this soil is low, and then only after a carefully designed water control system that will maintain the water table below a depth of 4 feet has been installed. Trees should be planted on beds and a vegetative cover maintained between the trees. Areas subject to freezing temperatures should not be used for citrus trees.

The potential for improved pasture grasses on this soil is medium. Pangolagrass, improved bahiagrass, and white clovers grow well when well managed. Water control measures are needed to remove excess surface water after heavy rains. Regular application of fertilizer and lime is needed, and grazing should be controlled to prevent overgrazing and weakening of the plants.

The potential for pine trees is medium. Slash pines are better suited to planting than other trees. The main management concerns are equipment limitations during periods of heavy rainfall, seedling mortality, and plant competition. For best results, a simple water control system to remove excess surface water is needed.

This soil has medium potential for dwellings without basements, small commercial buildings, and local roads and streets if proper water control methods are used. With proper water control and mounding, potential is medium for septic tank absorption fields; with proper water control and sealing or lining with impervious material, potential is medium for sewage lagoon areas. Potential is medium for playgrounds if proper water control and surface stabilization measures are used. Potential is low for trench sanitary landfills, even if proper water control measures are used and the areas are sealed or lined with impervious material. It is low for shallow excavations, even if the side slopes are shored and proper water control measures are used. Capability subclass IIIw.

53—Weekiwachee muck. This is a very poorly drained organic soil in the tidal marsh.

Typically, the surface layer is black muck to a depth of 26 inches and very dark brown muck to a depth of 32 inches. Beneath the muck is very dark gray fine sand about 4 inches thick. To a depth of about 45 inches is white soft limestone surrounding cobbles and boulders of hard limestone. Below a depth of 45 inches is hard limestone that can be chipped but not dug with a spade.

Included with this soil in mapping are small areas of Lacoochee and Homosassa soils. Included soils make up about 25 percent of any mapped area.

The water table fluctuates with the tide. This soil is flooded during normal high tides. Available water capacity is very high in the organic layers and medium below. Natural fertility is high, and permeability is moderately rapid.

Native vegetation consists dominantly of needlegrass rush, seashore saltgrass, marshhay cordgrass, big cordgrass, and smooth cordgrass.

This soil is not suitable for cultivated crops, pasture grasses, or woodland. The potential for these uses is very low because of daily flood hazard, high salt content, and high sulfur content.

This soil has very low potential for septic tank absorption fields, dwellings without basements, small commercial buildings, local roads and streets, and playgrounds, even if areas are protected from tidal flooding, unsuitable material is replaced, and proper water control measures are used. In addition, mounding is needed for septic tank absorption fields. The potential is also very low for trench sanitary landfill and sewage lagoons, even if the areas are protected from tidal flooding and areas are sealed or lined with impervious material. It is very low for trench sanitary landfills, even if proper water control measures are used. Capability subclass VIIIw.

54—Weekiwachee-Homosassa association. This association consists of nearly level, very poorly drained organic soils in the tidal march along the Gulf Coast.

Weekiwachee and Homosassa soils occur in a regular and repeating pattern. Individual areas of each soil range from about 3 to 40 acres in size and are large enough to map separately, but because of lack of accessibility and present and predicted use, they were not separated on the soil map. Homosassa soils generally are near the coast and streams, and Weekiwachee soils are generally further inland where accumulations of organic material are deeper. Areas of this association range from about 20 to 360 acres in size.

Weekiwachee soils make up about 35 percent of this association. Typically, Weekiwachee soils are black muck to a depth of about 32 inches. Below the muck is about 4 inches of very dark gray fine sand over about 9 inches of soft, white limestone. Hard limestone is below a depth of about 45 inches.

Weekiwachee soils are very poorly drained and under natural conditions are flooded daily during normal high tides. Permeability is moderately rapid. Available water capacity is very high in the organic layers and medium below. Weekiwachee soils have a high sulfur and salt content.

Homosassa soils make up about 30 percent of the association. Typically, the surface layer is about 15 inches thick. The upper 2 inches is black mucky fine sand, the next 6 inches is very dark gray mucky fine sandy loam, and the lower 7 inches is very dark gray loamy fine sand. Next is dark grayish brown loamy fine sand to a depth of about 27 inches. Soft limestone extends to a depth of 33 inches, and hard limestone is below that.

Under natural conditions, Homosassa soils are flooded daily by normal high tides. The available water capacity is very high in the surface layer and medium below. Permeability is moderately rapid throughout the soil.

The rest of the mapping unit is mostly shallow tidal pools and small tidal streams. A few small areas of Lacoochee soils are also included, and they occur as small rocky ridges.

This mapping unit is in natural vegetation: needlegrass rush, seashore saltgrass, marshhay cordgrass, big cordgrass, smooth cordgrass, and red mangrove.

This soil is not suitable for cultivated crops, pasture grasses, or woodland. The potential for these uses is very low because of daily flood hazard, high salt content, and high sulfur content.

The dominant soils in this association have very low potential for septic tank absorption fields, dwellings without basements, small commercial buildings, local roads and streets, and playgrounds, even if areas are protected from tidal flooding, unsuitable material is replaced, and proper water control measures are used. In addition, mounding is needed in areas used for septic tank absorption fields. Potential is also very low for trench sanitary landfills and sewage lagoons, even if areas are protected from tidal flooding and are sealed or lined with impervious material. Proper water control measures are also needed in areas used for trench sanitary landfills. Capability subclass VIIIw.

55—Williston loamy fine sand, 2 to 5 percent slopes. This is a gently sloping, well drained soil in small areas on ridges in the uplands. Slopes are smooth to concave.

Typically, the surface layer is about 12 inches thick. The upper 6 inches is dark gray loamy fine sand, and the lower 6 inches is dark brown loamy fine sand. The subsoil is dark yellowish brown sandy clay loam to a depth of 18 inches and brown sandy clay to a depth of about 37 inches. Below is soft limestone mixed with boulders of harder limestone.

Included with this soil in mapping are small areas of Kendrick, Micanopy, and Williston Variant soils and similar soils that have limestone below a depth of 40 inches. Included soils make up less than 15 percent of any mapped area.

In most years, under natural conditions, the water table is at a depth of more than 72 inches. Williston soils have low available water capacity in the surface layer and high available water capacity in the subsoil. Natural fertility is low. Permeability is rapid in the surface layer and moderately slow in the subsoil.

The native vegetation consists of oaks, slash and longleaf pines, cedar, sweetgum, scattered saw-palmetto, and native weeds and grasses.

This soil has medium potential for production of cultivated crops if good management practices are used. Moderate erosion control practices are needed to reduce the risk of erosion. Clean-tilled crops should be planted on the contour in alternate strips with cover crops. Cropping sequences that include cover crops on the soil at least half of the time are needed. Cover crops and all crop residue should be left on the soil or plowed under. Maximum yields require good seedbed preparation and application of fertilizer and lime when needed.

The potential for citrus trees on this soil is very high in places relatively free from freezing temperatures. A good ground cover of close growing vegetation is needed between the trees to protect the soil from blowing and water erosion. Fertilizer is needed for highest yields.

The potential for improved pasture grasses is medium. Improved pasture plants such as Coastal bermudagrass and bahiagrasses are well adapted. They require fertilizing and controlled grazing to maintain vigorous plants for highest yields and good ground cover.

The potential for pine trees on this soil is high. Plant competition is a management concern where pine trees are grown. Slash pines are better suited to this soil than other trees.

This soil has medium potential for septic tank absorption fields if they are longer than normal size. It has medium potential for trench sanitary landfills if the areas are sealed or lined with impervious materials and medium potential for dwellings without basements and small commercial buildings if footings and foundations are enlarged and strengthened. Potential is high for shallow excavations if special equipment is used. It is high for playgrounds if the land is shaped and the surface is stabilized. Potential is low for sewage lagoon areas if

land is shaped and areas are sealed or lined with impervious material. Capability subclass IIe.

56—Williston Variant loamy fine sand, 2 to 5 percent slopes. This is a gently sloping, well drained soil on ridges in the uplands.

Typically, the surface layer is very dark grayish brown loamy fine sand about 4 inches thick. The subsoil is reddish brown sandy clay about 8 inches thick. Below this is white, soft and hard limestone.

Included with this soil in mapping are small areas of Kendrick, Micanopy, and Williston soils. Also included are small areas with many to common stones on the surface and in the profile (fig. 11). Included soils make up less than 10 percent of any mapped area.

In most years, under natural conditions, the water table is below a depth of 72 inches. This soil has low available water capacity in the surface layer and high available water capacity in the subsoil. Natural fertility is low. Permeability is rapid in the surface layer and moderately slow in the subsoil.

The natural vegetation is oaks, slash and longleaf pines, cedar, sweetgum, scattered saw-palmetto, and native weeds and grasses.

This soil has low potential for production of most cultivated crops mainly because of the shallow root zone, susceptibility to erosion, and, in a few places, the many stones on the surface. Where there are not too many stones, a system of terraces and stabilized outlets is needed to reduce the effects of erosion. Cover crops and all crop residue should be left on the land or plowed under. Clean-tilled row crops should be grown on the contour and alternated with strips of close-growing cover crops. Maximum yields require good seedbed preparation and the use of fertilizer as needed.

The potential for citrus on this soil is medium in areas relatively free from freezing temperatures.

The potential for good pastures on this soil is medium. Coastal bermudagrass and the improved bahiagrasses grow well when they are well managed. Regular applications of fertilizer are needed, and grazing should be controlled to maintain plant vigor.

This soil has medium potential for longleaf and slash pines. Slash pines are the best species to plant.

This soil has medium potential for septic tank absorption fields if the areas are enlarged and special equipment is used. Potential is medium for trench sanitary landfills if the areas are sealed or lined with impervious material and special equipment is used. With enlargement and strengthening of footings and foundations and use of special equipment, potential is medium for dwellings without basements and small commercial buildings. Potential is high for shallow excavations if special equipment is used and high for playgrounds if the land is shaped and the surface is stabilized. Potential is low for sewage lagoon areas, even if special equipment is used, the land is shaped, and the lagoon is sealed or lined with impervious material. It is low for local roads and streets, even if special equipment is used and poor soil material is removed or replaced. Capability subclass IVs.

Use and management of the soils

The soil survey is a detailed inventory and evaluation of the most basic resource of the survey area—the soil. It is useful in adjusting land use, including urbanization, to the limitations and potentials of natural resources and the environment. Also, it can help avoid soil-related failures in uses of the land.

While a soil survey is in progress, soil scientists, conservationists, engineers, and others keep extensive notes about the nature of the soils and about unique aspects of behavior of the soils. These notes include data on erosion, drought damage to specific crops, yield estimates, flooding, the functioning of septic systems, and other factors affecting the productivity, potential, and limitations of the soils under various uses and management. In this way, field experience and measured data on soil properties and performance are used as a basis for predicting soil behavior.

Information in this section is useful in planning use and management of soils for crops and pasture and woodland, and as sites for buildings, highways and other transportation systems, sanitary facilities, parks and other recreation facilities, and wildlife habitat. From the data presented, the potential of each soil for specified land uses can be determined, soil limitations to these land uses can be identified, and costly failures in houses and other structures, caused by unfavorable soil properties, can be avoided. A site where soil properties are favorable can be selected, or practices that will overcome the soil limitations can be planned.

Planners and others using the soil survey can evaluate the impact of specific land uses on the overall productivity of the survey area or other broad planning area and on the environment. Productivity and the environment are closely related to the nature of the soil. Plans should maintain or create a land-use pattern in harmony with the natural soil.

Contractors can find information that is useful in locating sources of sand, roadfill, and topsoil. Other information indicates the presence of bedrock, wetness, or very firm soil horizons that cause difficulty in excavation.

Health officials, highway officials, engineers, and many other specialists also can find useful information in this soil survey. The safe disposal of wastes, for example, is closely related to properties of the soil. Pavements, sidewalks, campsites, playgrounds, lawns, and trees and shrubs are influenced by the nature of the soil.

Crops and pasture

JOHN D. GRIFFIN, agronomist, Soil Conservation Service, helped prepare this section.

The major management concerns in the use of soils for crops and pasture are described in this section. In addition, the crops or pasture plants best adapted to the soil, including some not commonly grown in the survey area, are discussed; the system of land capability classification

used by the Soil Conservation Service is explained; and predicted yields of the main crops and pasture grasses are given for each soil.

This section provides information about the overall agricultural potential and needed practices in the survey area for those in the agribusiness sector—equipment dealers, drainage contractors, fertilizer companies, processing companies, planners, conservationists, and others. For each kind of soil, information about management is presented in the section "Soil maps for detailed planning." When making plans for management systems for individual fields or farms, check the detailed information given in the description of each soil.

More than 47,000 acres in the survey area were used for crops and pasture in 1975, according to the Soil Conservation Service "Now on the Land" report. Of this total, 46,000 acres were used for permanent pasture, and 1,000 acres were used for row crops, mainly watermelons and soybeans, according to the Conservation Needs Inventory (*7*). About 6,900 acres in the survey area are in citrus groves, according to a 1975 study made by the County Tax Assessor. Of this, about 51 percent is early or mid oranges; about 37 percent is late oranges; about 3 percent is grapefruit; about 9 percent is tangerines, 4 percent of which are murcott or honey tangerines.

The soils in Hernando County can potentially produce more food. About 5,000 acres of potentially good cropland are currently used as woodland, and about 20,000 acres are used as pasture. In addition to the reserve productive capacity represented by this land, food production could also be increased by extending the latest crop production technology to all cropland in the county. This soil survey can greatly facilitate the application of such technology.

Acreage in crops and pasture has gradually been increasing as more and more land is cleared. It was estimated that in 1967 there were about 78,000 acres of urban and built-up land in the county; this figure has been growing at the rate of about 100 acres per year.

Field crops suited to the soils and climate of the survey area include many that are not now commonly grown. Corn, watermelon, and to an increasing extent soybeans, are the row crops. Grain sorghum, beans, peanuts, potatoes, and similar crops can be grown if economic conditions are favorable.

Ryegrass, rye, wheat, and oats are the common close-growing winter crops.

Special crops grown commercially in the survey area are vegetables, citrus crops, and nursery plants. A small acreage throughout the county is used for melon, strawberries, eggplant, sweet corn, tomatoes, peppers, and other vegetables and small fruits. In addition, large areas can be adapted to other special crops such as blueberries, grapes, and many vegetables. Oranges and grapefruit are the most important tree fruits grown in the county.

Deep soils that have good natural drainage and that warm up early in spring are especially well suited to many vegetables and small fruits. In the survey area, these are the Kendrick and Williston soils that have slopes of less than 5 percent. Also, if irrigated, the Arredondo, Candler, Lake, and Sparr soils that have slopes of less than 5 percent are well suited to vegetables, small fruits, and watermelons. Crops can generally be planted and harvested earlier on all these soils than on the other soils in the survey area.

About 6,900 acres of citrus are grown in the county. The largest producing area is around Spring Lake, mostly on well drained to somewhat poorly drained soils. In some areas where the groves are on poorly drained soils, the root zone is restricted by the water table, which is near the surface during wet seasons. On these poorly drained soils, a properly developed water control system is needed to keep the water table below a depth of 4 feet so the trees can develop a good root system. Drainage is not needed on the well drained soils, but irrigation is needed during droughty seasons for good production. A high level of management is needed on all groves. Although many of the soils in the survey area have soil properties that are moderately well suited to well suited to citrus crops, all areas are subject to freeze damage. All groves must be adequately protected during these cold periods to be successfully grown.

Improved pasture plays an important part in the farm economy of the county. About 7 percent of Hernando County is planted to improved pasture. Approximately half of the farm income is derived from livestock, principally beef and dairy cattle. Cow-calf operations are dominant in the county.

On many farms the forage produced on pasture is supplemented by annual forage crops—small grain in winter and millet and sorghum-sudan hybrids in summer. Hay is fed during winter.

The improved pasture in many parts of the survey area has been greatly depleted by continued excessive use. The amount of forage produced may be less than half of the potential production. Productivity of the improved pasture can be increased by fertilization and other management practices that are effective for specific kinds of soil and for specific pasture and hayland plants.

Where climate and topography are about the same, differences in the kind and amount of forage that pasture can produce are related closely to the kind of soil. Effective management is based on the relationship among soils, pasture plants, fertilization, and water. Table 5 shows suitable pasture grasses and legume plants and estimated yields in normal years under a high level of management.

General management practices are not discussed in detail in this section, but are outlined briefly in each mapping unit description. Management practices for different crops on different soils change as more and better information is gained from experience of workers at experiment stations and from the experience of growers and ranchers.

Erosion is a concern on about two-thirds of the cropland and pasture in Hernando County. Erosion can be a hazard on soils that have slopes of more than 2 percent.

Loss of the surface soil to erosion is damaging for two reasons:

First, productivity is reduced as the surface soil is lost and part of the subsoil is incorporated into the plow layer. Loss of the surface soil is especially damaging on soils that have a clayey subsoil and on soils that have a layer in or below the subsoil limiting the depth of the root zone. Erosion also reduces productivity on soils that tend to be droughty, such as Arredondo soils. Secondly, soil erosion on farmland results in sedimentation. Control of erosion minimizes sedimentation and increases the quality of water for municipal use, for recreation, and for fish and wildlife.

On many sloping fields, preparing a good seedbed and tillage are difficult in clayey areas because the original surface soil has been eroded away. Such areas are common in areas of Flemington and Micanopy soils.

Erosion control practices provide protective surface cover, reduce runoff, and increase water infiltration. The cropping system that keeps vegetative cover on the soil for extended periods can hold soil erosion losses to amounts that will not reduce the productive capacity of the soils. On livestock farms that require pasture and hay, the legume and grass forage crops in the cropping system reduce erosion on sloping lands, provide nitrogen, and improve soil tilth.

Slopes are so short and irregular that contour tillage or terracing is not practical in some areas of sloping soils. In those areas, cropping systems that provide substantial vegetative cover are required to control erosion unless minimum tillage is practiced. Minimizing tillage and leaving crop residues on the surface help to increase infiltration and reduce the hazards of runoff and erosion. These practices can be adapted to most soils in the survey area.

Terraces and diversions reduce the length of slope and thus reduce runoff and erosion. They are most practical on deep, well drained soils that have regular slopes. Other soils that have more irregular slopes are less suitable for terraces and diversions. Some soils are not suitable for terracing because their clayey subsoil would be exposed in terrace channels, they are too sandy, or they have limestone at a depth of less than 40 inches. Contouring and contour stripcropping are good erosion control practices used in the survey area. They are better adapted to soils that have smooth, uniform slopes.

Soil blowing is a hazard in many areas of deep, sandy soils. Soil blowing can damage these soils in a few hours if winds are strong and the soils are dry and bare of surface cover. In such areas, maintaining a vegetative cover minimizes soil blowing. Windbreaks of adapted shrubs and trees are effective in reducing soil blowing.

Water control is a major management need on about two-thirds of the acreage used for crops and pasture in the survey area. Some soils, such as the very poorly drained Anclote, Delray, Floridana, and Terra Ceia soils, are naturally so wet that the production of crops is generally not possible in their native state. Crops grown on somewhat poorly drained soils, such as Adamsville soils, are damaged by the high water table in many years. Moderately well drained soils, such as Tavares soils, generally do not have a water table high enough to damage crops in most years.

The design of surface and subsurface water control systems varies with the kind of soil. A combined surface and subsurface system is needed in most areas of the poorly drained and very poorly drained soils used for intensive row cropping. Drains need to be more closely spaced in slowly permeable soils than in more permeable soils. Finding adequate outlets for water control systems is difficult in many areas.

Organic soils oxidize and subside when the water table is lowered. In areas of organic soils, a water control system is needed to keep the water table at the level required by crops during the growing season and to raise it to the surface during other parts of the year to minimize oxidation or subsidence.

Soil tilth is an important factor in the germination of seeds and in the infiltration rate of water into the soil. Soils that have good tilth are granular and porous. Most of the soils used for crops in Hernando County have a sandy surface texture and are low in content of organic matter. Regular additions of crop residues, manure, and other organic material help to improve soil structure and to increase the available water capacity of these soils.

Fall plowing is generally not a good practice on these soils because about two-thirds of the cropland consists of sloping soils that are subject to damaging erosion if they are plowed in fall. On some of the more clayey soils, tilth is a concern because soils often stay wet until late in spring. If they are plowed when wet, they tend to be cloddy in the clayey spots when they dry, and good seedbeds are difficult to prepare. Fall plowing generally results in good tilth in the spring on these soils.

Yields per acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 5. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. Absence of an estimated yield indicates that the crop is not suited to or not commonly grown on the soil.

The estimated yields were based mainly on the experience and records of farmers, conservationists, and extension agents. Results of field trials and demonstrations and available yield data from nearby counties were also considered.

The yields were estimated assuming that the latest soil and crop management practices were used. Hay and pasture yields were estimated for the most productive varieties of grasses and legumes climatically suited to the area and the soil. A few farmers may be obtaining average yields higher than those shown in table 5.

The management needed to achieve the indicated yields of the various crops depends on the kind of soil and the crop. Such management provides drainage, erosion control, and protection from flooding; the proper planting

and seeding rates; suitable high-yielding crop varieties; appropriate tillage practices, including time of tillage and seedbed preparation and tilling when soil moisture is favorable; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residues, barnyard manure, and green-manure crops; harvesting crops with the smallest possible loss; and timeliness of all fieldwork.

The estimated yields reflect the productive capacity of the soils for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 5 are grown in the survey area, but estimated yields are not included because the acreage of these crops is small. The local offices of the Soil Conservation Service and the Cooperative Extension Service can provide information about the management concerns and productivity of the soils for these crops.

Capability classes and subclasses

Capability classes and subclasses show, in a general way, the suitability of soils for most kinds of field crops. The soils are classed according to their limitations when they are used for field crops, the risk of damage when they are used, and the way they respond to treatment. The grouping does not take into account major and generally expensive landforming that would change slope, depth, or other characteristics of the soils; does not take into consideration possible but unlikely major reclamation projects; and does not apply to rice, cranberries, horticultural crops, or other crops that require special management. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forest trees, or for engineering purposes.

In the capability system, all kinds of soil are grouped at two levels: capability class and subclass. These levels are defined in the following paragraphs. A survey area may not have soils of all classes.

CAPABILITY CLASSES, the broadest groups, are designated by Roman numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use; they are defined as follows:

Class I soils have few limitations that restrict their use.

Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class III soils have severe limitations that reduce the choice of plants, or that require special conservation practices, or both.

Class IV soils have very severe limitations that reduce the choice of plants, or that require very careful management, or both.

Class V soils are not likely to erode but have other limitations, impractical to remove, that limit their use.

Class VI soils have severe limitations that make them generally unsuitable for cultivation.

Class VII soils have very severe limitations that make them unsuitable for cultivation.

Class VIII soils and landforms have limitations that nearly preclude their use for commercial crop production.

CAPABILITY SUBCLASSES are soil groups within one class; they are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, IIe. The letter *e* shows that the main limitation is risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is too cold or too dry.

In class I there are no subclasses because the soils of this class have few limitations. Class V contains only the subclasses indicated by *w*, *s*, or *c* because the soils in class V are subject to little or no erosion, though they have other limitations that restrict their use to pasture, rangeland, woodland, wildlife habitat, or recreation.

The acreage of soils in each capability class and subclass is indicated in table 6. All soils in the survey area except Pits, Dumps, Urban land, and other miscellaneous areas are included. Some of the soils that are well suited to crops and pasture, for example, soils in capability class II, may be in low-intensity use. Data in this table can be used to determine the farming potential of such soils.

The capability subclass is identified in the description of each soil mapping unit in the section "Soil maps for detailed planning."

Woodland management and productivity

LOUIE P. HEARD, environmental specialist, Soil Conservation Service, helped prepare this section.

This section contains information about the relationship between soils and trees. It informs landowners and operators of the capability of soils to produce trees and suggests suitable management.

The 1968 Conservation Needs Inventory (*7*) shows that about 170,000 acres of commercial forests and 39,000 acres of noncommercial forests are in Hernando County. This is about 70 percent of the total area of the county. Not all of this forest is in private ownership.

The early growth and settlement of Hernando County was closely related to the production of wood products. Turpentine and lumber were manufactured from the virgin pine forests on the flatwoods and rolling hills of the county. Cypress and hardwoods were harvested in vast quantities from the coastal and river swamps. Sawmill towns, such as Centralia in northwest Hernando County, were settled with the establishment of a company saw-

mill. Stores, schools, and dwellings flourished and were abandoned with the final cutting of the virgin forest. The cutover forests were left to regenerate and grow as best they could.

Between 1936 and 1939, the U.S. Department of Agriculture purchased cutover, burned-over timber lands in Hernando County and three adjoining counties to be used as a demonstration unit to promote proper land use. Approximately 37,000 acres in Hernando County were included in the Withlacoochee Land Use Project.

The Withlacoochee Land Use Project was first managed by the Soil Conservation Service and later by the Forest Service to carry out programs and practices in timber and wildlife management.

In 1958, the State of Florida purchased the property and designated it as the Withlacoochee State Forest. The forest was managed by the State Division of Forestry, which used the multiple use concept of timber management, wildlife management, and forest related recreation management.

Companies continue to harvest timber from the coastal and river swamps, the Annutteliga Hammock, and the pine flatwoods in the Richloam area. They produce lumber, veneer, and pulpwood. While on a lesser scale than in the past, Hernando County's forest lands continue to be productive.

A well-managed stand of trees helps to prevent soil deterioration and helps to conserve soil and water resources. One of the primary functions of good trees is to protect the soil. Trees slow the fall of raindrops and allow the soil to absorb more moisture. Erosion is not an important factor in most of the county, but the ability of tree cover to allow more moisture to enter the soil is important to ground water supplies. Properly managed forests are an important part of the direct and indirect economy of the county. Practices to be considered in achieving proper management are defined briefly in the following paragraphs.

Trees and ground cover are destroyed by uncontrolled wildfires. Trees not killed are slowed in growth and may be scarred, which allows the entry of insects and diseases. This is particularly true in stands predominantly of hardwoods. Fire lessens the ability of the soil to absorb water and consume litter that contributes organic matter to the soil.

Countywide fire protection is furnished by the State Division of Forestry. Individual landowners, however, should observe all rules of fire protection. Firebreaks should be constructed and maintained around and through all woodlands. These firebreaks can slow or stop a fire under normal conditions. Prescribed burning should also be practiced with the advice and assistance of the Divison of Forestry.

Management of water in woodlands is not a significant concern in most of the county. In the western part of the county, where there are coastal and river swamps, species indigenous to wet soils occur. Minimum drainage may be required on pine flatwoods if extensive clearcutting and replanting take place.

Most of the woodland of the county is understocked and in need of stand improvement. Tree farming is a good land use in many areas. Idle land can be profitably used to grow desirable trees. Pines can grow on a variety of soils, and they require a minimum of care.

To profit most from good woodland, a forest owner should use proper cutting practices. Proper practices vary with the condition of the woodland. Landowners should seek the advice of local soil conservationists, the Soil Conservation Service, or a representative of the Florida Division of Forestry.

Table 7 contains information useful to woodland owners or forest managers planning use of soils for wood crops. Mapping unit symbols for soils suitable for wood crops are listed, and the ordination (woodland suitability) symbol for each soil is given. All soils bearing the same ordination symbol require the same general kinds of woodland management and have about the same potential productivity.

The first part of the *ordination symbol*, a number, indicates the potential productivity of the soils for important trees. The number 1 indicates very high productivity; 2, high; 3, moderately high; 4, moderate; and 5, low. The second part of the symbol, a letter, indicates the major kind of soil limitation. The letter *x* indicates stoniness or rockiness; *w*, excessive water in or on the soil; *t*, toxic substances in the soil; *d*, restricted root depth; *c*, clay in the upper part of the soil; *s*, sandy texture; *f*, high content of coarse fragments in the soil profile; and *r*, steep slopes. The letter *o* indicates insignificant limitations or restrictions. If a soil has more than one limitation, priority in placing the soil into a limitation class is in the following order: x, w, t, d, c, s, f, and r.

In table 7 the soils are also rated for a number of factors to be considered in management. *Slight*, *moderate*, and *severe* are used to indicate the degree of major soil limitations.

Ratings of the *erosion hazard* indicate the risk of loss of soil in well-managed woodland. The risk is *slight* if the expected soil loss is small, *moderate* if some measures are needed to control erosion during logging and road construction, and *severe* if intensive management or special equipment and methods are needed to prevent excessive loss of soil.

Ratings of *equipment limitation* reflect the characteristics and conditions of the soil that restrict use of the equipment generally needed in woodland management or harvesting. A rating of *slight* indicates that use of equipment is not limited to a particular kind of equipment or time of year; *moderate* indicates a short seasonal limitation or a need for some modification in management or equipment; *severe* indicates a seasonal limitation, a need for special equipment or management, or a hazard in the use of equipment.

Seedling mortality ratings indicate the degree that the soil affects expected mortality of planted tree seedlings when plant competition is not a limiting factor. Seedlings from good planting stock that are properly planted during

a period of sufficient rainfall are rated. A rating of *slight* indicates that the expected mortality of the planted seedlings is less than 25 percent; *moderate*, 25 to 50 percent; and *severe*, more than 50 percent.

Ratings of *plant competition* indicate the degree to which undesirable plants are expected to invade or grow if openings are made in the tree canopy. The invading plants compete with native plants or planted seedlings by impeding or preventing their growth. A rating of *slight* indicates little or no competition from other plants; *moderate* indicates that plant competition is expected to hinder the development of a fully stocked stand of desirable trees; *severe* means that plant competition is expected to prevent the establishment of a desirable stand unless the site is intensively prepared, weeded, or otherwise managed for the control of undesirable plants.

The *potential productivity* of merchantable or *important trees* on a soil is expressed as a *site index* (*4, 8, 11*). This index is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Important trees are those that woodland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability.

Trees to plant are those that are suitable for commercial wood production and that are suited to the soils.

Windbreaks and environmental plantings

Windbreaks are established to protect livestock, buildings, and yards from winds. Windbreaks also help protect fruit trees and gardens, and they furnish habitat for wildlife. Several rows of low- and high-growing broadleaved and coniferous species provide the most protection.

Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field, the interval depending on erodibility of the soil. They protect cropland and crops from wind and provide food and cover for wildlife.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. A healthy planting stock of suitable species planted properly on a well-prepared site and maintained in good condition can insure a high degree of plant survival.

Additional information about planning windbreaks and screens and the planting and care of trees can be obtained from local offices of the Soil Conservation Service, the Cooperative Extension Service, or from nurserymen.

Engineering

This section provides information about the use of soils for building sites, sanitary facilities, construction material, and water management. Among those who can benefit from this section are engineers, landowners, community planners, town and city managers, land developers, builders, contractors, and farmers and ranchers.

The ratings in the engineering tables are based on test data and estimated data in the "Soil properties" section. The ratings were determined jointly by soil scientists and engineers of the Soil Conservation Service using known relationships between the soil properties and the behavior of soils in various engineering uses.

Among the soil properties and site conditions identified by a soil survey and used in determining the ratings in this section were grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock that is within 5 or 6 feet of the surface, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure or aggregation, in-place soil density, and geologic origin of the soil material. Where pertinent, data about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kind of absorbed cations were also considered.

On the basis of information assembled about soil properties, ranges of values can be estimated for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, shear strength, compressibility, slope stability, and other factors of expected soil behavior in engineering uses. As appropriate, these values can be applied to each major horizon of each soil or to the entire profile.

These factors of soil behavior affect construction and maintenance of roads, airport runways, pipelines, foundations for small buildings, ponds and small dams, irrigation projects, drainage systems, sewage and refuse disposal systems, and other engineering works. The ranges of values can be used to: (1) select potential residential, commercial, industrial, and recreational uses; (2) make preliminary estimates pertinent to construction in a particular area; (3) evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; (4) evaluate alternative sites for location of sanitary landfills, onsite sewage disposal systems, and other waste disposal facilities; (5) plan detailed onsite investigations of soils and geology; (6) find sources of sand, clay, and topsoil; (7) plan farm drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; (8) relate performance of structures already built to the properties of the kinds of soil on which they are built so that performance of similar structures on the same or a similar soil in other locations can be predicted; and (9) predict the trafficability of soils for cross-country movement of vehicles and construction equipment.

Data presented in this section are useful for land-use planning and for choosing alternative practices or general designs that will overcome unfavorable soil properties and minimize soil-related failures. Limitations to the use of these data, however, should be well understood. First, the data are generally not presented for soil material below a depth of 5 or 6 feet. Also, because of the scale of the detailed map in this soil survey, small areas of soils that differ from the dominant soil may be included in mapping. Thus, these data do not eliminate the need for onsite investigations, testing, and analysis by

personnel having expertise in the specific use contemplated.

The information is presented mainly in tables. Table 8 shows, for each kind of soil, the degree and kind of limitations for building site development; table 9, for sanitary facilities; and table 10, for water management. Table 11 shows the suitability of each kind of soil as a source of construction materials.

The information in the tables, along with the soil map, the soil descriptions, and other data provided in this survey can be used to make additional interpretations and to construct interpretive maps for specific uses of land.

Some of the terms used in this soil survey have a special meaning in soil science. Many of these terms are defined in the Glossary.

Building site development

The degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, and local roads and streets are indicated in table 8. A *slight* limitation indicates that soil properties are favorable for the specified use; any limitation is minor and easily overcome. A *moderate* limitation indicates that soil properties and site features are unfavorable for the specified use, but the limitations can be overcome or minimized by special planning and design. A *severe* limitation indicates one or more soil properties or site features are so unfavorable or difficult to overcome that a major increase in construction effort, special design, or intensive maintenance is required. For some soils rated severe, such costly measures may not be feasible.

Shallow excavations are used for pipelines, sewerlines, telephone and power transmission lines, basements, open ditches, and cemeteries. Such digging or trenching is influenced by the soil wetness of a high seasonal water table; the texture and consistence of soils; the tendency of soils to cave in or slough; and the presence of very firm, dense soil layers, bedrock, or large stones. In addition, excavations are affected by slope of the soil and the probability of flooding. Ratings do not apply to soil horizons below a depth of 6 feet unless otherwise noted.

In the soil series descriptions, the consistence of each soil horizon is defined, and the presence of very firm or extremely firm horizons, usually difficult to excavate, is indicated.

Dwellings and *small commercial buildings* referred to in table 8 are built on undisturbed soil and have foundation loads of a dwelling no more than three stories high. Separate ratings are made for small commercial buildings without basements and for dwellings with and without basements. For such structures, soils should be sufficiently stable that cracking or subsidence from settling or shear failure of the foundation does not occur. These ratings were determined from estimates of the shear strength, compressibility, and shrink-swell potential of the soil (fig. 12). Soil texture, plasticity and in-place density, potential frost action, soil wetness, and depth to a seasonal high water table were also considered. Soil wetness and depth to a seasonal high water table indicate potential difficulty in providing adequate drainage for basements, lawns, and gardens. Depth to bedrock, slope, and large stones in or on the soil are also important considerations in the choice of sites for these structures and were considered in determining the ratings. Susceptibility to flooding is a serious limitation.

Local roads and streets referred to in table 8 have an all-weather surface that can carry light to medium traffic all year. They consist of a subgrade of the underlying soil material; a base of gravel, crushed rock fragments, or soil material stabilized with lime or cement; and a flexible or rigid surface, commonly asphalt or concrete. The roads are graded with soil material at hand, and most cuts and fills are less than 6 feet deep.

The load supporting capacity and the stability of the soil as well as the quantity and workability of fill material available are important in design and construction of roads and streets. The classifications of the soil and the soil texture, density, shrink-swell potential, and potential frost action are indicators of the traffic supporting capacity used in making the ratings. Soil wetness, flooding, slope, depth to hard rock or very compact layers, and content of large stones affect stability and ease of excavation.

Sanitary facilities

Favorable soil properties and site features are needed for proper functioning of septic tank absorption fields, sewage lagoons, and sanitary landfills. The nature of the soil is important in selecting sites for these facilities and in identifying limiting soil properties and site features to be considered in design and installation. Also, those soil properties that affect ease of excavation or installation of these facilities will be of interest to contractors and local officials. Table 9 shows the degree and kind of limitations of each soil for such uses and for use of the soil as daily cover for landfills. It is important to observe local ordinances and regulations.

If the degree of soil limitation is expressed as *slight*, soils are generally favorable for the specified use and limitations are minor and easily overcome; if *moderate*, soil properties or site features are unfavorable for the specified use, but limitations can be overcome by special planning and design; and if *severe*, soil properties or site features are so unfavorable or difficult to overcome that major soil reclamation, special designs, or intensive maintenance is required.

Septic tank absorption fields are subsurface systems of tile or perforated pipe that distribute effluent from a septic tank into the natural soil. Only the soil horizons between depths of 18 and 72 inches are evaluated for this use. The soil properties and site features considered are those that affect the absorption of the effluent and those that affect the construction of the system.

Properties and features that affect absorption of the effluent are permeability, depth to seasonal high water table, depth to bedrock, and susceptibility to flooding. Stones, boulders, and shallowness to bedrock interfere with installation. Excessive slope may cause lateral seepage and surfacing of the effluent. Also, soil erosion and soil slippage are hazards if absorption fields are installed on sloping soils.

In some soils, loose sand or fractured bedrock is less than 4 feet below the tile lines. In these soils the absorption field does not adequately filter the effluent, and ground water in the area may be contaminated.

On many of the soils that have moderate or severe limitations for use as septic tank absorption fields, a system to lower the seasonal water table could be installed or the size of the absorption field could be increased so that performance is satisfactory.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons have a nearly level floor and cut slopes or embankments of compacted soil material. Aerobic lagoons generally are designed to hold sewage within a depth of 2 to 5 feet. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Soils that are very high in content of organic matter and those that have cobbles, stones, or boulders are not suitable. Unless the soil has very slow permeability, contamination of ground water is a hazard where the seasonal high water table is above the level of the lagoon floor. In soils where the water table is seasonally high, seepage of ground water into the lagoon can seriously reduce the lagoon's capacity for liquid waste. Slope, depth to bedrock, and susceptibility to flooding also affect the suitability of sites for sewage lagoons or the cost of construction. Shear strength and permeability of compacted soils affect the performance of embankments.

Sanitary landfill refers to a method of disposing of solid waste by placing refuse in successive layers either in excavated trenches or on the surface of the soil. The waste is spread, compacted, and covered daily with thin layers of soil. Landfill areas are subject to heavy vehicular traffic. Risk of polluting ground water and trafficability affect the suitability of a soil for this use. The best soils have a loamy or silty texture, have moderate to slow permeability, are deep to a seasonal water table, and are not subject to flooding. Clayey soils are likely to be sticky and difficult to spread. Sandy soils generally have rapid permeability, which might allow noxious liquids to contaminate ground water. Soil wetness may be a limitation because operating heavy equipment on a wet soil is difficult. Seepage into the refuse increases the risk of pollution of ground water.

In the trench type of landfill, ease of excavation also affects the suitability of a soil for this purpose, so the soil must be deep to bedrock and free of large stones and boulders. Where the seasonal water table is high, water seeps into trenches and causes problems in filling.

Unless otherwise stated, the limitations in table 8 apply only to the soil material within a depth of about 6 feet. If the trench is deeper, a limitation of slight or moderate may not be valid. Site investigation is needed before a site is selected.

In the area type of sanitary landfill, refuse is placed on the surface of the soil and covered daily with topsoil. The limitations caused by soil texture, depth to bedrock, and content of stones do not apply to this type of landfill. Soil wetness, however, can be a limitation because of difficulty in operating equipment.

Daily cover for landfill should be soil that is easy to excavate and spread over the compacted fill in wet and dry periods. Soils that are loamy or silty and free of stones or boulders are better than other soils. Clayey soils may be sticky and difficult to spread; sandy soils may be subject to soil blowing.

The soils selected for final cover of landfills should be suitable for growing plants. Of all the horizons, the A horizon in most soils has the best workability, more organic matter, and the best potential for growing plants. Thus, for either the area- or trench-type landfill, stockpiling material from the A horizon for use as the surface layer of the final cover is desirable.

Where it is necessary to bring in soil material for daily or final cover, thickness of suitable soil material available and depth to a seasonal high water table in soils surrounding the sites should be evaluated. Other factors to be evaluated are those that affect reclamation of the borrow areas. These factors include slope, erodibility, and potential for plant growth.

Water management

Many soil properties and site features that affect water management practices have been identified in this soil survey. In table 10 the degree of soil limitation and soil and site features that affect use are indicated for each kind of soil. This information is significant in planning, installing, and maintaining water control structures.

Soil and site limitations are expressed as slight, moderate, and severe. *Slight* means that the soil properties and site features are generally favorable for the specified use and that any limitation is minor and easily overcome. *Moderate* means that some soil properties or site features are unfavorable for the specified use but can be overcome or modified by special planning and design. *Severe* means that the soil properties and site features are so unfavorable and so difficult to correct or overcome that major soil reclamation, special design, or intensive maintenance is required.

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have a low seepage potential, which is determined by permeability and the depth to fractured or permeable bedrock or other permeable material.

Embankments, dikes, and levees require soil material that is resistant to seepage, erosion, and piping and has

favorable stability, shrink-swell potential, shear strength, and compaction characteristics. Large stones and organic matter in a soil downgrade the suitability of a soil for use in embankments, dikes, and levees.

Aquifer-fed excavated ponds are bodies of water made by excavating a pit or dugout into a ground-water aquifer. Excluded are ponds that are fed by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Ratings in table 10 are for ponds that are properly designed, located, and constructed. Soil properties and site features that affect aquifer-fed ponds are depth to a permanent water table, permeability of the aquifer, quality of the water, and ease of excavation.

Drainage of soil is affected by such soil properties as permeability, texture, depth to bedrock, hardpan, or other layers that affect the rate of water movement, depth to the water table, slope, stability of ditchbanks, susceptibility to flooding, salinity and alkalinity, and availability of outlets for drainage.

Irrigation is affected by such features as slope, susceptibility to flooding, hazards of water erosion and soil blowing, texture, presence of salts and alkali, depth of root zone, rate of water intake at the surface, permeability of the soil below the surface layer, available water capacity, need for drainage, and depth to the water table.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to intercept runoff. They allow water to soak into the soil or flow slowly to an outlet. Features that affect suitability of a soil for terraces are uniformity and steepness of slope; depth to bedrock, hardpan, or other unfavorable material; large stones; permeability; ease of establishing vegetation; and resistance to water erosion, soil blowing, soil slipping, and piping.

Construction materials

The suitability of each soil as a source of roadfill, sand, and topsoil is indicated in table 11 by ratings of good, fair, or poor. The texture, thickness, and organic-matter content of each soil horizon are important factors in rating soils for use as construction materials. Each soil is evaluated to the depth observed, generally about 6 feet.

Roadfill is soil material used in embankments for roads. Soils are evaluated as a source of roadfill for low embankments, which generally are less than 6 feet high and less exacting in design than high embankments. The ratings reflect the ease of excavating and working the material and the expected performance of the material where it has been compacted and adequately drained. The performance of soil after it is stabilized with lime or cement is not considered in the ratings, but information about some of the soil properties that influence such performance is given in the descriptions of the soil series.

The ratings apply to the soil material between the A horizon and a depth of 5 to 6 feet. It is assumed that soil horizons will be mixed during excavation and spreading. Many soils have horizons of contrasting suitability within their profile. The estimated engineering properties in table 11 provide specific information about the nature of each horizon. This information can help determine the suitability of each horizon for roadfill.

Soils rated *good* are coarse grained. They have low shrink-swell potential, low potential frost action, and few cobbles and stones. They are at least moderately well drained and have slopes of 15 percent or less. Soils rated *fair* have a plasticity index of less than 15 and have other limiting features, such as moderate shrink-swell potential, moderately steep slopes, wetness, or many stones. If the thickness of suitable material is less than 3 feet, the entire soil is rated *poor*.

Sand is used in great quantities in many kinds of construction. The ratings in table 11 provide guidance as to where to look for probable sources and are based on the probability that soils in a given area contain sizable quantities of sand. A soil rated *good* or *fair* has a layer of suitable material at least 3 feet thick, the top of which is within a depth of 6 feet. Coarse fragments of soft bedrock material are not considered. Fine-grained soils are not suitable sources of sand.

The ratings do not take into account depth to the water table or other factors that affect excavation of the material. Descriptions of grain size, kinds of minerals, reaction, and stratification are given in the soil series descriptions and in table 14.

Topsoil is used in areas where vegetation is to be established and maintained. Suitability is affected mainly by the ease of working and spreading the soil material in preparing a seedbed and by the ability of the soil material to support plantlife. Also considered is the damage that can result at the area from which the topsoil is taken.

The ease of excavation is influenced by the thickness of suitable material, wetness, slopes, and amount of stones. The ability of the soil to support plantlife is determined by texture, structure, and the amount of soluble salts or toxic substances. Organic matter in the A1 or Ap horizon greatly increases the absorption and retention of moisture and nutrients. Therefore, the soil material from these horizons should be carefully preserved for later use.

Soils rated *good* have at least 16 inches of friable loamy material at their surface. They are free of stones and cobbles and have gentle slopes. They are low in soluble salts that can limit or prevent plant growth. They are naturally fertile or respond well to fertilizer. They are not so wet that excavation is difficult during most of the year.

Soils rated *fair* are loose sandy soils or firm loamy or clayey soils in which the suitable material is only 8 to 16 inches thick or soils that have appreciable amounts of stones or soluble salt.

Soils rated *poor* are very sandy soils and very firm clayey soils; soils with suitable layers less than 8 inches thick; soils having large amounts of stones or soluble salt; steep soils; and poorly drained soils.

Although a rating of *good* is not based entirely on high content of organic matter, a surface horizon is generally

preferred for topsoil because of its organic-matter content. This horizon is designated as A1 or Ap in the soil series descriptions. The absorption and retention of moisture and nutrients for plant growth are greatly increased by organic matter.

Recreation

The soils of the survey area are rated in table 12 according to limitations that affect their suitability for recreation uses. The ratings are based on such restrictive soil features as flooding, wetness, slope, and texture of the surface layer. Not considered in these ratings, but important in evaluating a site, are location and accessibility of the area, size and shape of the area and its scenic quality, the ability of the soil to support vegetation, access to water, potential water impoundment sites available, and either access to public sewerlines or capacity of the soil to absorb septic tank effluent. Soils subject to flooding are limited, in varying degree, for recreation use by the duration and intensity of flooding and the season when flooding occurs. Onsite assessment of height, duration, intensity, and frequency of flooding is essential in planning recreation facilities.

The degree of the limitation of the soils is expressed as slight, moderate, or severe. *Slight* means that the soil properties are generally favorable and that the limitations are minor and easily overcome. *Moderate* means that the limitations can be overcome or alleviated by planning, design, or special maintenance. *Severe* means that soil properties are unfavorable and that limitations can be offset only by costly soil reclamation, special design, intensive maintenance, limited use, or by a combination of these measures.

The information in table 12 can be supplemented by information in other parts of this survey. Especially helpful are interpretations for septic tank absorption fields given in table 9 and interpretations for dwellings without basements and for local roads and streets given in table 8.

Camp areas require such site preparation as shaping and leveling for tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The best soils for this use have mild slopes and are not wet or subject to flooding during the period of use. The surface has few or no stones or boulders, absorbs rainfall readily but remains firm, and is not dusty when dry. Strong slopes and stones or boulders can greatly increase the cost of constructing camping sites.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The best soils for use as picnic areas are firm when wet, are not dusty when dry, are not subject to flooding during the period of use, and do not have slopes or stones or boulders that will increase the cost of shaping sites or of building access roads and parking areas.

Playgrounds require soils that can withstand intensive foot traffic. The best soils are almost level and are not wet or subject to flooding during the season of use. The surface is free of stones or boulders, is firm after rains, and is not dusty when dry. If shaping is required to obtain a uniform grade, the depth of the soil over bedrock or hardpan should be enough to allow necessary grading.

Paths and trails for walking, horseback riding, bicycling, and other uses should require little or no cutting and filling. The best soils for this use are those that are not wet, are firm after rains, are not dusty when dry, and are not subject to flooding more than once during the annual period of use. They should have moderate slopes and have few or no stones or boulders on the surface.

Wildlife habitat

JOHN F. VANCE, JR., biologist, Soil Conservation Service, helped prepare this section.

Wildlife is a valuable resource in Hernando County. Although the available habitat has been reduced somewhat by urbanization, large acreages of improved pasture, citrus groves, and forest land interspersed over the county still provide habitat to support abundant wildlife populations.

The principal game species in the survey area are white-tailed deer, gray squirrel, fox squirrel, rabbits, bobwhite quail, mourning dove, turkey, and waterfowl. Black bear range through the hardwood and swamp forests of the county, but are few in number and are not legal game. Wild hogs are also present and are considered game animals in the Richloam Wildlife Management Area. Gray fox, red fox, bobcat, and raccoon are hunted on the Croom Wildlife Management Area.

Portions of three State wildlife management areas (Citrus, Croom, and Richloam) and the Chassahowitzka National Wildlife Refuge are found in Hernando County. These areas support good wildlife populations and are good indicators of the value of wildlife resources in the county.

The wide variety of habitats in the area commonly support many other species of wildlife; among these are opossum, otter, armadillo, skunk, and numerous resident and migratory birds. Six species on the U.S. Fish and Wildlife Service threatened species list are in the area. These species are the southern bald eagle, brown pelican, red-cockaded woodpecker, Florida sandhill crane, American alligator, and Florida panther.

Wading birds, such as egrets, ibis, limpkins, and herons are abundant on the wet soil areas of the survey area. These birds are dependent on foods such as snails, small fish, frogs, and insects in shallow water areas. They nest in bushes and trees over water.

Wood ducks and Florida mallards are resident wild ducks in the survey area. Migratory wild ducks are also present during the winter months, especially in the Chassohowitzka Refuge along the coast. The primary migrato-

ry species hunted are American widgeon, pintail, lesser scaup, ringneck, and green-winged teal.

Numerous kinds of saltwater game fish occur in the coastal waters. The most common freshwater game fish are black crappie, largemouth bass, redbreast sunfish, shellcrackers, bluegill bream, warmouth, and channel catfish. Most of the freshwater fishing takes place in the Withlacoochee River and in the small natural lakes and ponds scattered over the survey area.

Soils directly affect the kind and amount of vegetation that is available to wildlife as food and cover, and they affect the construction of water impoundments. The kind and abundance of wildlife that populate an area depend largely on the amount and distribution of food, cover, and water. If any one of these elements is missing, inadequate, or inaccessible, wildlife either are scarce or do not inhabit the area.

If the soils have the potential, wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by helping the natural establishment of desirable plants.

In table 13, the soils in the survey area are rated according to their potential to support the main kinds of wildlife habitat in the area. This information can be used in planning for parks, wildlife refuges, nature study areas, and other developments for wildlife; selecting areas that are suitable for wildlife; selecting soils that are suitable for creating, improving, or maintaining specific elements of wildlife habitat; and determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* means that the element of wildlife habitat or the kind of habitat is easily created, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected if the soil is used for the designated purpose. A rating of *fair* means that the element of wildlife habitat or kind of habitat can be created, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* means that limitations are severe for the designated element or kind of wildlife habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* means that restrictions for the element of wildlife habitat or kind of wildlife are very severe, and that unsatisfactory results can be expected. Wildlife habitat is impractical or even impossible to create, improve, or maintain on soils having such a rating.

The elements of wildlife habitat are briefly described in the following paragraphs.

Grain and seed crops are seed-producing annuals used by wildlife. Examples are corn, sorghum, millet, rye, cowpeas, soybeans, and sunflowers. The major soil properties that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flood hazard. Soil temperature and soil moisture are also considerations.

Grasses and legumes are domestic perennial grasses and herbaceous legumes that are planted for wildlife food and cover. Examples are bahiagrass, lovegrass, switchgrass, annual lespedeza, pangolagrass, clover, trefoil, and hairy indigo. Major soil properties that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flood hazard, and slope. Soil temperature and soil moisture are also considerations.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds, that provide food and cover for wildlife. Examples are bluestem, indiangrass, goldenrod, beggarweed, pokeweed, partridgepea, deer vetch, and grama. Major soil properties that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flood hazard. Soil temperature and soil moisture are also considerations.

Hardwood trees and the associated woody understory provide cover for wildlife and produce nuts or other fruit, buds, catkins, twigs, bark, or foliage that wildlife eat. Examples of native plants are oak, magnolia, cherry, sweetgum, maple, hawthorn, dogwood, persimmon, sassafras, sumac, hickory, cabbage palm, beautyberry, blackberry, grape, inkberry, saw-palmetto, viburnum, huckleberry, bayberry, and briers. Examples of fruit-producing shrubs that are commercially available and suitable for planting on soils rated good are Russian-olive, autumn-olive, and crabapple. Major soil properties that affect growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness.

Coniferous plants are cone-bearing trees, shrubs, or ground cover plants that furnish habitat or supply food in the form of browse, seeds, or fruitlike cones. Examples are pine, cedar, and cypress. Soil properties that have a major effect on the growth of coniferous plants are depth of the root zone, available water capacity, and wetness.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites, exclusive of submerged or floating aquatics. They produce food or cover for wildlife that use wetland as habitat. Examples of wetland plants are smartweed, wild millet, wildrice, saltgrass, and cordgrass and cattails, rushes, sedges, and reeds. Major soil properties affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness.

Shallow water areas are bodies of water that have an average depth of less than 5 feet and that are useful to wildlife. They can be naturally wet areas, or they can be created by dams or levees or by water-control devices in marshes or streams. Examples are coastal marshes, waterfowl feeding areas, and ponds. Major soil properties affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. The availability of a dependable water supply is important if water areas are to be developed.

The kinds of wildlife habitat are briefly described in the following paragraphs.

Openland habitat consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. The kinds of wildlife attracted to these areas include bobwhite quail, meadowlark, field sparrow, cottontail rabbit, red fox, and doves.

Woodland habitat consists of areas of hardwoods or conifers, or a mixture of both, and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, woodcock, thrushes, vireos, woodpeckers, squirrels, grey fox, raccoon, deer, and black bear.

Wetland habitat consists of open, marshy or swampy, shallow-water areas where water-tolerant plants grow. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, rails, kingfishers, alligators, and otters.

Wildlife management practices

Wildlife habitat management thrives on disturbances, such as controlled burning, grazing, chopping, cultivation, water level manipulation, mowing, and sometimes the use of pesticides. Each species of wildlife occupies a niche in a vegetative type; therefore, management for a particular species involves an attempt to keep the vegetative community in the stage or stages that favor that species.

A primary factor in evaluating wildlife habitat is the plant diversity in an area. A wide range in the interspersion of vegetative types or age classes is generally more favorable to wildlife. Increasing dominance by a few plant species is generally accompanied by a corresponding decrease in numbers of wildlife.

Soil properties

Extensive data about soil properties are summarized on the following pages. The two main sources of these data are the many thousands of soil borings made during the course of the survey and the laboratory analyses of selected soil samples from typical profiles.

In making soil borings during field mapping, soil scientists can identify several important soil properties. They note the seasonal soil moisture condition or the presence of free water and its depth. For each horizon in the profile, they note the thickness and color of the soil material; the texture, or amount of clay, silt, sand, and gravel or other coarse fragments; the structure, or the natural pattern of cracks and pores in the undisturbed soil; and the consistence of the soil material in place under the existing soil moisture conditions. They record the depth of plant roots, determine the pH or reaction of the soil, and identify any free carbonates.

Samples of soil material are analyzed in the laboratory to verify the field estimates of soil properties and to determine all major properties of key soils, especially properties that cannot be estimated accurately by field observation. Laboratory analyses are not conducted for all soil series in the survey area, but laboratory data for many soil series not tested are available from nearby survey areas.

The available field and laboratory data are summarized in tables. The tables give the estimated range of engineering properties, the engineering classification, and the physical and chemical properties of each major horizon of each soil in the survey area. They also present pertinent soil and water features, engineering test data, and data obtained from physical and chemical laboratory analyses of soils.

Engineering properties

Table 14 gives estimates of engineering properties and classifications for the major horizons of each soil in the survey area.

Most soils have, within the upper 5 or 6 feet, horizons of contrasting properties. Table 14 gives information for each of these contrasting horizons in a typical profile. *Depth* to the upper and lower boundaries of each horizon is indicated. More information about the range in depth and about other properties in each horizon is given for each soil series in the section "Soil series and morphology."

Texture is described in table 14 in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in soil material that is less than 2 millimeters in diameter. "Loam," for example, is soil material that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If a soil contains gravel or other particles coarser than sand, an appropriate modifier is added, for example, "gravelly loam." Other texture terms are defined in the Glossary.

The two systems commonly used in classifying soils for engineering use are the Unified Soil Classification System (Unified) (*2*) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO) (*1*).

The *Unified* system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter, plasticity index, liquid limit, and organic-matter content. Soils are grouped into 15 classes—eight classes of coarse-grained soils, identified as GW, GP, GM, GC, SW, SP, SM, and SC; six classes of fine-grained soils, identified as ML, CL, OL, MH, CH, and OH; and one class of highly organic soils, identified as Pt. Soils on the borderline between two classes have a dual classification symbol, for example, CL-ML.

The *AASHTO* system classifies soils according to those properties that affect their use in highway construction and maintenance. In this system a mineral soil is classified in one of seven basic groups ranging from A-1 through A-7 on the basis of grain-size distribution, liquid

limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines. At the other extreme, in group A-7, are fine-grained soils. Highly organic soils are classified in group A-8 on the basis of visual inspection.

When laboratory data are available, the A-1, A-2, and A-7 groups are further classified as follows: A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, and A-7-6. As an additional refinement, the desirability of soils as subgrade material can be indicated by a group index number. These numbers range from 0 for the best subgrade material to 20 or higher for the poorest. The AASHTO classification for soils tested in the survey area, with group index numbers in parentheses, is given in table 20. The estimated classification, without group index numbers, is given in table 14. Also in table 14 the percentage, by weight, of rock fragments more than 3 inches in diameter is estimated for each major horizon. These estimates are determined mainly by observing volume percentage in the field and then converting that, by formula, to weight percentage.

Percentage of the soil material less than 3 inches in diameter that passes each of four sieves (U.S. standard) is estimated for each major horizon. The estimates are based on tests of soils that were sampled in the survey area and in nearby areas and on field estimates from many borings made during the survey.

Liquid limit and *plasticity index* indicate the effect of water on the strength and consistence of soil. These indexes are used in both the Unified and AASHTO soil classification systems. They are also used as indicators in making general predictions of soil behavior. Range in liquid limit and plasticity index are estimated on the basis of test data from the survey area or from nearby areas and on observations of the many soil borings made during the survey.

In some surveys, the estimates are rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterburg limits extend a marginal amount across classification boundaries (1 or 2 percent), the classification in the marginal zone is omitted in table 14.

Physical and chemical properties

Table 15 shows estimated values for several soil characteristics and features that affect behavior of soils in engineering uses. These estimates are given for each major horizon, at the depths indicated, in the typical pedon of each soil. The estimates are based on field observations and on test data for these and similar soils.

Permeability is estimated on the basis of known relationships among the soil characteristics observed in the field—particularly soil structure, porosity, and gradation or texture—that influence the downward movement of water in the soil. The estimates are for vertical water movement when the soil is saturated. Not considered in the estimates is lateral seepage or such transient soil features as plowpans and surface crusts. Permeability of the soil is an important factor to be considered in planning and designing drainage systems, in evaluating the potential of soils for septic tank systems and other waste disposal systems, and in many other aspects of land use and management.

Available water capacity is rated on the basis of soil characteristics that influence the ability of the soil to hold water and make it available to plants. Important characteristics are content of organic matter, soil texture, and soil structure. Shallow-rooted plants are not likely to use the available water from the deeper soil horizons. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design of irrigation systems.

Soil reaction is expressed as range in pH values. The range in pH of each major horizon is based on many field checks. For many soils, the values have been verified by laboratory analyses. Soil reaction is important in selecting the crops, ornamental plants, or other plants to be grown; in evaluating soil amendments for fertility and stabilization; and in evaluating the corrosivity of soils.

Salinity is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of the nonirrigated soils. The salinity of individual irrigated fields is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of individual fields can differ greatly from the value given in table 15. Salinity affects the suitability of a soil for crop production, its stability when used as a construction material, and its potential to corrode metal and concrete.

Shrink-swell potential depends mainly on the amount and kind of clay in the soil. Laboratory measurements of the swelling of undisturbed clods were made for many soils. For others the swelling was estimated on the basis of the kind and amount of clay in the soil and on measurements of similar soils. The size of the load and the magnitude of the change in soil moisture content also influence the swelling of soils. Shrinking and swelling of some soils can cause damage to building foundations, basement walls, roads, and other structures unless special designs are used. A high shrink-swell potential indicates that special design and added expense may be required if the planned use of the soil will not tolerate large volume changes.

Risk of corrosion pertains to potential soil-induced chemical action that dissolves or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to soil moisture, particle-size distribution, total acidity, and electrical conductivity of the soil material. The rate of corrosion of concrete is based mainly on the sulfate content, texture, and acidity of the soil. Protective measures for steel or more resistant concrete help to avoid or minimize damage resulting from the corrosion. Uncoated steel intersecting soil boundaries or soil horizons is more susceptible to corrosion than an installation that is entirely within one kind of soil or within one soil horizon.

Erosion factors (K and T) are factors used in an equation that predicts the amount of soil loss resulting from rainfall erosion of cropland. The soil erodibility factor K is a measure of the rate at which a soil will erode. From the equation, values are expressed as tons of soil lost per acre per unit of R (rainfall factor) from continuous fallow (3 years or more) on a 9 percent slope, 73 feet long. Thus, the K factor reflects the rate that soil erodes when the factors affecting erosion are constant. The K factors shown in table 16 range from 0.10 to 0.32. The lower the K factor, the lower the erosion potential, and the higher the K factor, the higher the erosion potential.

Soil properties that influence erodibility by water are those that affect infiltration rate, movement of water through the soil, water storage capacity and those that resist dispersion, splashing, abrasion, and transporting forces from rainfall and runoff. Some of the soil properties that are most important are texture and organic matter content of the surface layer, size and stability of structural aggregates in the surface layer, permeability of the subsoil, and depth to slowly permeable layers.

The soil-loss tolerance factor T, sometimes called permissible soil loss, is the maximum rate of soil erosion that will permit a high level of crop productivity to be sustained economically and indefinitely. These rates are expressed in tons of soil loss per acre per year. Rates of 1 through 5 tons are used, depending upon soil properties, soil depth, and prior erosion.

Wind erodibility grouping is the placement of soils having similar wind erodibility potentials into groups. This is done by the use of the "wind erodibility equation," in which the factors which influence soil blowing are used. Soil blowing is a dominant concern on many of the sandy soils in the area during dry periods, primarily in March, April, and May. Soils are placed in groups from 1 to 5. Low numbers indicate a high potential soil loss from soil blowing. The organic soils in their wet natural state are not subject to soil blowing; if drained and cultivated, however, they are. The most serious damage from soil blowing is the separation and gradual removal of silt, clay, and organic matter from the surface layer. Soil blowing, besides causing severe damage to crops, can also cause traffic problems, fill drainage ditches, block roads, bury equipment, and create dust and health problems in residential areas. The wind erodibility groups are:

Group 1. Mostly soils that have single grained, dry, cloddy structure in the surface layer; extremely erodible; vegetation difficult to establish; not suitable for cultivation.

Group 2. Mostly soils that have weak, dry, cloddy structure in the surface layer; very highly erodible; generally require a combination of practices

Group 3. Mostly soils that have moderately stable, dry cloddy structure in the surface layer; highly erodible; generally require at least two practices to control soil blowing.

Group 4. Soils that have extremely variable, dry, cloddy structure in the surface layer (slacking and granulation because of contraction and swelling of clay fraction by wetting and drying); moderately to highly erodible; generally require at least two practices to control soil blowing.

Group 5. Soils not suitable for cultivation because of wetness or stoniness; soil blowing not a concern.

Soil blowing usually starts at some critical location, such as on building sites, where the surface is exposed; in areas of spoil material from excavations; on exposed knolls; on tracks or paths made by machinery or animals; and at corners or turnrows in cultivated areas, where the soil has been excessively pulverized. Soil blowing occurs when a wind of adequate velocity blows across an unprotected soil surface that is smooth, bare, loose, dry, and finely granulated.

Soil and water features

Table 16 contains information helpful in planning land uses and engineering projects that are likely to be affected by soil and water features.

Hydrologic soil groups are used to estimate runoff from precipitation. Soils not protected by vegetation are placed in one of four groups on the basis of the intake of water after the soils have been wetted and have received precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist chiefly of deep, well drained to excessively drained sands or gravels. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep to deep, moderately well drained to well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils that have a layer that impedes the downward movement of water or soils that have moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clay soils that have a high shrink-swell potential, soils that have a permanent high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Flooding is the temporary covering of soil with water from overflowing streams, with runoff from adjacent slopes, and by tides. Water standing for short periods after rainfall and standing water in depressions, swamps, and marshes for long periods is not considered flooding. Flooding is rated in general terms that describe the frequency and duration of flooding and the time of year

when flooding is most likely. The ratings are based on evidence in the soil profile of the effects of flooding, namely thin strata of gravel, sand, silt, or, in places, clay deposited by floodwater; irregular decrease in organic-matter content with increasing depth; and absence of distinctive soil horizons that form in soils of the area that are not subject to flooding. The ratings are also based on local information about floodwater levels in the area and the extent of flooding; and information that relates the position of each soil on the landscape to historic floods.

The generalized description of flood hazards is of value in land-use planning and provides a valid basis for land-use restrictions. The soil data are less specific, however, than those provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

High water table is the highest level of a saturated zone more than 6 inches thick for a continuous period of more than 2 weeks during most years. The depth to a seasonal high water table applies to undrained soils. Estimates are based mainly on the relationship between grayish colors or mottles in the soil and the depth to free water observed in many borings made during the course of the soil survey. Indicated are the depth to the seasonal high water table; the kind of water table, that is, perched, artesian, or apparent; and the months of the year that the water table commonly is high. Only saturated zones above a depth of 5 or 6 feet are indicated.

Information about the seasonal high water table helps in assessing the need for specially designed foundations, the need for specific kinds of drainage systems, and the need for footing drains to insure dry basements. Such information is also needed to decide whether or not construction of basements is feasible and to determine how septic tank absorption fields and other underground installations will function. Also, a seasonal high water table affects ease of excavation.

Depth to bedrock is shown for all soils that are underlain by bedrock at a depth of 5 to 6 feet or less. For many soils, the limited depth to bedrock is a part of the definition of the soil series. The depths shown are based on measurements made in many soil borings and on other observations during the soil mapping. The kind of bedrock and its hardness as related to ease of excavation is also shown. Rippable bedrock can be excavated with a single-tooth ripping attachment on a 200-horsepower tractor, but hard bedrock generally requires blasting.

Subsidence is the settlement of organic soils or of soils containing semifluid layers. Initial subsidence generally results from drainage. Total subsidence is initial subsidence plus the slow sinking that occurs over a period of several years as a result of the oxidation or compression of organic material.

Test data

Physical and chemical analyses of selected soils

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Physical, chemical, and mineral properties of representative pedons sampled in Hernando County are presented in tables 17, 18, and 19. The analyses were conducted and coordinated by the Soil Characterization Laboratory at the University of Florida. Detailed profile descriptions of the soils analyzed are given in alphabetical order by series name in the section "Classification of the Soils." Laboratory data and profile information for other soils in Hernando County as well as for other counties in Florida are on file in the Soil Science Department, University of Florida.

Soils were sampled from pits at carefully selected locations that represented typifying profiles. The samples were air-dried, crushed, and sieved through a 2-mm screen. Most of the analytical methods used are outlined in Soil Survey Investigations Report No. 1 (*10*).

Particle size distribution was determined by using a modification of the Bouyoucos hydrometer procedure with sodium hexametaphosphate as the dispersant. Hydraulic conductivity, bulk density, and water content were determined on undisturbed core samples. Organic carbon was determined by a modification of the Walkley-Black wet combustion method. Extractable bases were obtained by leaching soils with ammonium acetate buffered at pH 7.0. Sodium and potassium in the extract were determined by flame photometry, and calcium and magnesium, by atomic absorption spectroscopy. Extractable acidity was determined by the barium chloride-triethanolamine method at pH 8.2. Cation exchange capacity is the sum of extractable bases and extractable acidity. Base saturation is the ratio of extractable bases to cation exchange capacity expressed in percent. The pH measurements were made with a glass electrode using a soil-water ratio of 1:1; a 0.01 M calcium chloride solution in a 1:2 soil-solution ratio; and 1 N potassium chloride solution in a 1:1 soil-solution ratio.

Iron and aluminum were extracted from suspected spodic horizons with dithionate citrate. In a few horizons carbon, iron, and aluminum were extracted with 0.1 *M* sodium pyrophosphate. Determination of iron and aluminum was by atomic absorption spectroscopy and extracted carbon by the Walkley-Black wet combustion method. Mineralogy of the clay fraction was ascertained by X-ray diffraction. Peak heights at 18 angstrom, 14 angstrom, 7.2 angstrom, 4.83 angstrom, and 4.31 angstrom positions represent montmorillonite or interstratified expandible, vermiculite and (or) 14 angstrom intergrades, kaolinite, gibbsite, and quartz, respectively, which were measured, summed, and normalized to give percent of soil minerals identified in the X-ray diffractograms. This percentage is not an absolute quantity but a relative dis-

tribution of clay minerals in the clay fraction of the samples. The absolute percentage would require additional knowledge of particle size, crystallinity, and crystal lattice substitution.

Many of the soils are inherently sandy. With some exceptions, these soils are dominated by fine and very fine sands to a depth of more than 1 meter. The total silt content rarely is as high as 10 percent and is usually considerably less than 5 percent. Some soils such as Astatula, Basinger, Candler, Lake, Myakka, Paola, and Tavares soils are sandy to a depth of 2 meters or more; however, textures of sandy clay loam are at a depth of less than 1 meter in Wauchula soils. The Flemington soil is clayey throughout except for the A horizon. The Aripeka soil is shallow, but in it as in the Paisley soil, clay content increases with depth below a depth of about 33 cm.

The textural implications are for a tendency toward droughtiness in sandy soils. Based on bulk densities and the moisture retained between 1/10 and 15 bars, these soils will hold no more than 5 centimeters of water available to plants in the upper 40 centimeters and as much as 20 centimeters in the upper 1 meter.

The hydraulic conductivity in these soils is very high, often in excess of 20 centimeters per hour. However, it falls to zero or near zero centimeters per hour in argillic horizons of Arredondo, Blichton, and Nobleton soils and in the moderately well expressed spodic horizons of Electra Variant soils.

Chemical properties are reported in table 18. Extractable bases, cation exchange capacity, and base saturation indicated that most of these soils tend to have a low native nutrient status. Calcium and magnesium are the primary bases with not more than traces of sodium and potassium. Extractable acidity tends to be quite high in most profiles. Specifically, Astatula, Basinger, Candler, Masaryk, Paola, Sparr, and Tavares soils have extremely low cation exchange capacities with little or no bases on these exchange complexes, and with the exception of Astatula, very low base status. Other soils have an intermediate cation exchange capacity. The Bh or spodic horizons of Electra Variant, Myakka, and Wauchula soils have higher cation exchange capacities than their overlying horizons. A low base saturation is consistent with Bh horizons. However, in Myakka soils the spodic or Bh horizon is rich in calcium and consequently has an unusually high base saturation. The high base saturation of Astatula soils does not necessarily imply a high level of available nutrients, but should best be interpreted with reference to its cation exchange capacity. Soils with low cation exchange capacities require only small amounts of bases to significantly alter their base saturation. Consequently, for successful crop production, such soils require small but frequent applications of fertilizers. The Aripeka, Blichton, Flemington, and Paisley soils have both relatively high cation exchange capacities and base saturation. These are the more naturally fertile soils.

Organic carbon in surface horizons ranges from about 0.5 percent in the Tavares soil to about 3.5 percent in the Myakka soil and generally averages about 1.4 percent for most soils. Organic carbon decreases with depth in most soils except those with a spodic or Bh horizon in which there is an accumulation greater than 1.0 percent. In its native form organic carbon seems to be the primary source of cation exchange capacity in the upper horizons of all Hernando County soils. It is directly responsible for improving physical conditions, and nutrient and water retention capacities, particularly in sandy soils. The lack of a significant quantity of clay in these upper horizons dictates that proper agronomic uses of these soils include programs for the conservation and maintenance of this vital component.

Soil reaction in calcium chloride is quite variable across the county, with little predictive trends, but the sandy soils are consistently acid with a narrow range between horizons of the same soil. Soils such as Aripeka, Myakka, and Paisley soils range from extremely acid in their surface horizons to neutral or mildly alkaline in subsoil horizons. Wauchula, Floridana Variant, Electra Variant, Basinger, and Tavares soils are consistently extremely acid to strongly acid with less than 1 pH unit difference between horizons of the same soil in many places. Correlation between percent base saturation and pH is not always evident and is readily demonstrated by the sandy Astatula, Candler, and Lake soils.

Sodium pyrophosphate, extractable carbon, iron, and aluminum were determined for the Basinger, Electra Variant, Paola, and Wauchula soils to determine if they met certain chemical criteria for spodic horizons. The Electra Variant and the Wauchula soils met the criteria.

The mineralogy of the coarser fraction (larger than 0.002 mm) is invariably quartz in all the soils sampled. There are no weatherable minerals and few heavy and opaque minerals. Mineralogy of crystalline components of the clay fraction (smaller than 0.002 mm) is reported in table 18 for selected horizons of the soils sampled. In general the total mineralogical suite is composed of a 14 angstrom intergrade mineral, kaolinite, montmorillonite, and quartz. Gibbsite is detected only in the lower horizon of the Basinger soil.

Blichton, Flemington, Nobleton, and Wauchula soils have significant quantities of montmorillonite in the clay fraction. The 14 angstrom intergrade mineral is in all the soils, generally decreasing with increasing depth, while kaolinite increases with depth. This trend between these two minerals suggests that kaolinite is the less stable component and that most of these soils are at an advanced stage of weathering. The montmorillonite seems to have been inherited and should be the least stable component in the present environment; nevertheless, its presence in Paisley, Flemington, Wauchula, and Blichton soils greatly influences the use and management of these soils. In other soils clay content is so low in the upper horizons that the use and management are more influenced by the total clay content than by clay mineralogy.

Engineering test data

Table 20 contains engineering test data made by the Soils Laboratory, Florida Department of Transportation, Bureau of Materials and Research, on some of the major soil series in the survey area. These tests were made to help evaluate the soils for engineering purposes. The classifications given are based on data obtained by mechanical analysis and by tests to determine liquid limits and plastic limits.

The mechanical analyses were made by combined sieve and hydrometer methods (*3*). In this method the various grain-sized fractions are calculated on the basis of all the material in the soil sample, including that coarser than 2 mm in diameter. The mechanical analyses used in this method should not be used in naming textural classes of soils.

Compaction (or moisture-density) data are important in earthwork. If soil material is compacted at a successively higher moisture content, assuming that the compactive effort remains constant, the density of the compacted material increases until the optimum moisture content is reached. After that, density decreases with increase in moisture content. The highest dry density obtained in the compactive test is termed maximum dry density. As a rule, maximum strength of earthwork is obtained if the soil is compacted to the maximum dry density.

Liquid limit and plasticity index indicate the effect of water on the strength and consistence of the soil material. As the moisture content of a clayey soil is increased from a dry state, the material changes from a semisolid to a plastic state. If the moisture content is further increased, the material changes from a plastic to a liquid state. The plastic limit is the moisture content at which the soil material changes from semisolid to plastic state; and the liquid limit is the moisture content at which the soil material changes from a plastic to a liquid state. The plasticity index is the numerical difference between the liquid limit and the plastic limit. It indicates the range of moisture content within which a soil material is plastic. The data on liquid limit and plasticity index in this table are based on laboratory tests of soil samples.

Classification of the soils

In this section, the soil series recognized in the survey area are described, the current system of classifying soils is defined, and the soils in the area are classified according to the current system.

Soil series and morphology

In this section, each soil series recognized in the survey area is described in detail. The descriptions are arranged in alphabetic order by series name.

Characteristics of the soil and the material in which it formed are discussed for each series. The soil is then compared to similar soils and to nearby soils of other series. Then a pedon, a small three-dimensional area of soil typical of the soil series in the survey area, is described. The detailed descriptions of each soil horizon follow standards in the Soil Survey Manual(*9*). Unless otherwise noted, colors described are for moist soil.

Following the pedon description is the range of important characteristics of the soil series in this survey area. Phases, or mapping units, of each soil series are described in the section "Soil maps for detailed planning."

Adamsville series

The Adamsville series is a member of the uncoated, hyperthermic family of Aquic Quartzipsamments. It consists of nearly level, somewhat poorly drained soils that formed in thick beds of sandy marine sediments. These soils are on low, broad flats that are less than 2 feet higher than the adjacent sloughs. Slopes are generally less than 2 percent. In most years, under natural conditions, the water table rises to within 20 inches of the surface for less than 2 weeks during very wet seasons but remains at a depth of 20 to 40 inches for 2 to 6 months. It recedes to a depth of more than 40 inches during dry periods.

Adamsville soils are geographically closely associated with Anclote, Basinger, Myakka, Pompano, and Tavares soils. Anclote soils are very poorly drained and are in depressions or poorly defined drainageways. Basinger soils are poorly drained and have an A&Bh horizon. Myakka soils are poorly drained and have spodic horizons within a depth of 30 inches. Pompano soils are poorly drained and are in poorly defined drainageways and depressions. Tavares soils are at slightly higher elevations and do not have the mottles that are evidence of wetness between depths of 20 and 40 inches, as Adamsville soils have.

Typical profile of Adamsville fine sand in a wooded area approximately 50 yards west of U.S. Highway 19 and 1/4 mile south of Spring Hill sewer plant, NE1/4NW1/4 sec. 29, T. 23 S., R. 17 E.:

A1—0 to 3 inches; very dark gray (10YR 3/1) fine sand; single grained; loose; few fine and medium roots; strongly acid; clear wavy boundary.

C1—3 to 10 inches; very pale brown (10YR 7/4) fine sand; common fine distinct yellowish brown (10YR 5/6) streaks; single grained; loose; medium acid; clear wavy boundary.

C2—10 to 20 inches; light gray (10YR 7/2) fine sand; common fine distinct yellowish brown (10YR 5/6) streaks along root channels; single grained; loose; medium acid; gradual smooth boundary.

C3—20 to 30 inches; white (10YR 8/2) fine sand; few fine distinct strong brown (7.5YR 5/6) mottles; single grained; loose; medium acid; gradual smooth boundary.

C4—30 to 80 inches; white (10YR 8/1) fine sand; single grained; loose; medium acid.

Total thickness of the A and C horizons is 80 inches or more. Reaction ranges from strongly acid to neutral throughout the profile. Silt plus clay content is less than 5 percent in the 10- to 40-inch control section.

The A horizon has hue of 10YR, value of 3 through 5, and chroma of 1 or 2. Thickness is 3 to 8 inches.

The C horizon has hue of 10YR, value of 5 through 8, and chroma of 1 through 4. The upper part of the C horizon usually has chroma of 3 or 4,

and the lower part usually has chroma of 1 or 2. Texture is fine sand or sand. The C horizon usually is mottled in shades of gray, yellow, and brown.

Anclote series

The Anclote series is a member of the sandy, siliceous, hyperthermic family of Typic Haplaquolls. It consists of low, nearly level, very poorly drained soils that formed in sandy marine sediments. These soils are in low depressional areas. Slope is less than 2 percent. In most years, under natural conditions, the water table is above the surface for 3 to 6 months during wet seasons and below a depth of 20 inches during dry seasons.

Anclote soils are geographically closely associated with Basinger, Delray, Floridana, Okeelanta, Pineda, Pompano, and Terra Ceia soils. Basinger soils have an A&Bh horizon and do not have a mollic epipedon. Delray and Floridana soils have an argillic horizon. Pineda soils are better drained than Anclote soils, occupy a slightly higher position in the landscape, and have Bir and argillic horizons. Okeelanta and Terra Ceia soils are organic. Pompano soils are poorly drained and do not have a mollic epipedon.

Typical profile of Anclote fine sand, in a grassy area approximately 100 yards west of U.S. Highway 19 and 40 yards south of Spring Hill entrance, NE1/4NW1/4 sec. 29, T. 23 S., R. 17 E.:

A11—0 to 7 inches; black (N 2/0) fine sand; weak medium granular structure; very friable; many fine roots; slightly acid; clear smooth boundary.

A12—7 to 14 inches; very dark gray (10YR 3/1) fine sand; common coarse distinct dark gray (N 4/0) mottles; weak medium granular structure; very friable; many fine roots; neutral; clear smooth boundary.

C1g—14 to 20 inches; grayish brown (10YR 5/2) fine sand; single grained; loose; common fine roots; neutral; gradual smooth boundary.

C2g—20 to 30 inches; light brownish gray (10YR 6/2) fine sand; single grained; loose; few fine roots; neutral; gradual smooth boundary.

C3g—30 to 80 inches; gray (10YR 6/1) fine sand; single grained; loose; neutral.

Reaction ranges from medium acid to mildly alkaline in all horizons.

The A horizon has hue of 10YR and 7.5YR, value of 2 through 3, and chroma of 1 or less. It has mottles with hue of 10YR, value of 4 or 5, and chroma of 2 or less. The A horizon is 10 to 20 inches thick.

The C horizon has hue of 10YR and 2.5Y, value of 5 or 6, and chroma of 2 or less. Texture is fine sand or sand. Some profiles have mottles of yellow or brown.

Aripeka series

The Aripeka series is a member of the fine-loamy, siliceous, hyperthermic family of Aquic Hapludalfs. It consists of nearly level, somewhat poorly drained, sandy soils that formed in marine, sandy and loamy sediments over soft and hard limestone. These soils are on low ridges adjacent to saltwater marshes. Slope is dominantly less than 1 percent. In most years, under natural conditions, the water table is at a depth of 18 to 30 inches for 2 to 6 months and at a depth of 30 to 60 inches for 6 months or more. Under natural conditions these soils may be very briefly flooded with saltwater during severe storm tides, but not during normal high tides.

Aripeka soils are geographically closely associated with Homosassa, Lacoochee, and Wabasso soils. Homosassa soils are very poorly drained and occupy low areas in the saltwater marsh. Locoochee soils do not have an argillic horizon, are poorly drained, and are on low knolls in the saltwater marsh. Wabasso soils are poorly drained, have a spodic horizon, and occupy slightly lower positions than Aripeka soils.

Typical profile of Ariepka fine sand in a wooded area, 0.4 mile north of Hernando Beach Church, SE1/4SW1/4 sec. 7, T. 23 S., R. 17 E.:

A1—0 to 3 inches; dark gray (10YR 4/1) fine sand; weak fine granular structure; very friable; few fine roots; slightly acid; clear wavy boundary.

A2—3 to 5 inches; grayish brown (10YR 5/2) fine sand; single grained; loose; many fine and medium roots; slightly acid; gradual wavy boundary.

B21—5 to 10 inches; yellowish brown (10YR 5/4) fine sand; few fine faint pale brown mottles; single grained; loose; few fine and medium roots; neutral; gradual wavy boundary.

B22—10 to 13 inches; dark brown (7.5YR 4/4) fine sand; few fine faint yellowish red mottles; weak medium granular structure; very friable; few medium and large roots; mildly alkaline; clear irregular boundary.

B23t—13 to 15 inches; dark yellowish brown (10YR 4/4) cobbly sandy clay loam; few fine faint yellowish brown mottles; friable; few medium and large roots; about 20 percent cobbles; moderately alkaline; gradual wavy boundary.

B24t—15 to 21 inches; strong brown (7.5YR 5/8) cobbly fine sandy loam; weak medium subangular blocky structure; friable; few medium and large roots; about 20 percent cobbles; moderately alkaline; clear irregular boundary.

IICr—21 to 29 inches; white (10YR 8/1) soft limestone; massive; firm; about 35 percent hard limestone fragments; this layer has a solution hole approximately 15 inches in diameter containing strong brown (7.5YR 5/8) fine sandy loam and hard limestone fragments; most roots do not penetrate this layer but are turned at the upper boundary; moderately alkaline; calcareous; abrupt irregular boundary.

IIIR—29 inches; hard limestone that can be chipped but not dug with a spade. This layer has a solution hole about 15 inches in diameter extending to a depth of about 45 inches below the surface. It is filled with fine sandy loam and hard limestone fragments.

Combined thickness of the A and B horizons typically is 20 to 25 inches, but ranges from 20 to 30 inches except in solution holes where thickness ranges to 45 inches or more. Depth to the IIIR horizon ranges from about 23 to 40 inches. The A2 horizon has hue of 10YR, value of 4 through 6, and chroma of 2 or 3. Reaction ranges from medium acid to mildly alkaline. Thickness ranges from 2 to 6 inches.

The B21 and B22 horizons have hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 3 through 8. Reaction ranges from medium acid to mildly alkaline. Thickness ranges from 3 to 10 inches.

The B23t and B24t horizons have colors similar to those of the B21 and B22 horizons. Texture is cobbly fine sandy loam or cobbly sandy clay loam. Hard limestone cobbles 3 to 10 inches across make up 15 to 35 percent of the volume of the B2t horizon. Clay content of the fine earth part of the B2t horizon ranges from 10 to 30 percent. Reaction ranges from neutral to moderately alkaline in the B2t horizon.

The IICr horizon is soft limestone in hue of 10YR, value of 7 or 8, and chroma of 1 or 2. Hard limestone fragments occur randomly throughout the horizon and range from about 20 to 35 percent, by volume, of the horizon. The number of solution holes ranges from none to about three in each pedon.

Arredondo series

The Arredondo series is a member of the loamy, siliceous, hyperthermic family of Grossarenic Paleudults. It consists of nearly level to sloping, well drained, sandy soils that formed in sandy and loamy materials. These soils are on uplands. In most years, under natural conditions, the water table is below a depth of 80 inches. Slopes are smooth to concave and range from 0 to 8 percent.

Arredondo soils are geographically closely associated with Candler, Kendrick, Lake, and Sparr soils. Candler and Lake soils occupy about the same position in the landscape, but differ by not having an argillic horizon. Kendrick soils have an argillic horizon between depths of 20 to 40 inches and are generally on small knolls. Sparr soils are somewhat poorly drained and are on slightly lower elevations or on side slopes.

Typical profile of Arredondo fine sand from an area of Arredondo fine sand, 0 to 5 percent slopes, in a pasture, 1/4 mile west of Florida Highway 581 and 1/4 mile south of small blacktop road on Chinsegut Beef Cattle Research Center, NE1/4SW1/4 sec. 36, T. 21 S., R. 19 E.:

Ap—0 to 8 inches; very dark gray (10YR 3/1) fine sand; weak medium granular structure; very friable; many fine and few medium roots; strongly acid; clear smooth boundary.

A21—8 to 14 inches; light yellowish brown (10YR 6/4) fine sand; common medium distinct dark grayish brown (10YR 4/2) mottles; single grained; loose; common uncoated sand grains; few charcoal fragments; common fine and few medium roots; medium acid; clear wavy boundary.

A22—14 to 41 inches; brownish yellow (10YR 6/6) fine sand; few fine faint very pale brown (10YR 7/3) uncoated sand grain mottles; sand grains are coated; single grained; loose; few charcoal fragments; many fine roots; medium acid; clear wavy boundary.

A23—41 to 54 inches; very pale brown (10YR 7/3) fine sand; common medium distinct (7.5YR 5/8) strong brown coated sand grain mottles; single grained; loose; common fine roots; many uncoated sand grains; few loamy sand lamellae; medium acid; clear wavy boundary.

B1—54 to 62 inches; reddish yellow (7.5YR 6/8) fine sand; weak fine granular structure; very friable; common fine roots; sand grains are well coated; medium acid; gradual smooth boundary.

B21t—62 to 69 inches; strong brown (7.5YR 5/8) loamy fine sand; weak medium granular structure; very friable; few fine roots; sand grains are coated and bridged with clay; strongly acid; clear wavy boundary.

B22t—69 to 80 inches; yellowish brown (10YR 5/4) sandy clay; common medium distinct strong brown (7.5YR 5/6) and many medium prominent slightly brittle dark red (2.5YR 3/6) mottles; moderate medium subangular blocky structure; friable; few roots; sand grains are coated and bridged with clay; very strongly acid; gradual wavy boundary.

B23t—80 to 99 inches; mixed yellowish red (5YR 5/6) and strong brown (7.5YR 5/6) sandy clay loam; common medium distinct slightly brittle red (2.5YR 4/6) and few fine faint very pale brown mottles; moderate medium subangular blocky structure; friable; sand grains are coated and bridged with clay; very strongly acid.

Reaction ranges from very strongly acid to medium acid throughout the profile. A few weathered and leached phosphatic pebbles ranging in diameter from 2 to 20 millimeters are common in many pedons.

The thickness of the A1 or Ap horizon ranges from 3 to 9 inches. The A1 or Ap horizon has hue of 10YR, value of 3 to 4, and chroma of 1 or 2.

The upper part of the A2 horizon has hue of 10YR, value of 5 or 6, and chroma of 3 through 6. Most sand grains are well coated with clay and oxides. The lower part of the A2 horizon has the same colors as the horizon above in places, but usually has hue of 10YR, value of 6 or 7, and chroma of 3 or 4. Thickness of the A2 horizon is 37 to 75 inches. Total thickness of the A horizon is 40 to 79 inches.

The B1 horizon has hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 6 through 8. Texture is fine sand or loamy fine sand.

The B21t horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 6 through 8. Texture is loamy fine sand or fine sandy loam. Thickness ranges from 3 to 10 inches.

The B22t and B23t horizons have hue of 7.5YR or 10YR, value of 5 through 8, and chroma of 4 through 8. Texture is sandy clay loam or sandy clay. Thickness is 10 to 26 inches or more. Weighted clay content of the upper 20 inches of the argillic horizon is between 18 and 35 percent.

Some pedons have a B3 horizon. Where the B3 horizon is present, color is similar to that of the B2t horizon and texture ranges from sandy loam to sandy clay loam.

Astatula series

The Astatula series is a member of the uncoated, hyperthermic family of Typic Quartzipsamments. It consists of nearly level to sloping, excessively drained soils that formed in thick beds of sandy marine, eolian, or fluvial sediments. These soils are in the upland, sandhill parts of the county. The water table is below a depth of 72 inches throughout the year. Slopes are smooth to concave and range from 0 to 8 percent.

Astatula soils are geographically closely associated with Arredondo, Candler, Lake, Paola, and Tavares soils. Arredondo soils differ from Astatula soils by having coated sand grains in the A2 horizon and by having an argillic horizon. Candler soils have lamellae at depths of 60 to 80 inches. Lake soils differ by having coated sand grains in the 10- to 40-inch control section. Paola soils have a B&A horizon. All of these associated soils are on about the same position in the landscape except Tavares soils. Tavares soils are at lower elevations and differ by having a water table between depths of 40 and 60 inches.

Typical profile of Astatula fine sand, 0 to 8 percent slopes, 0.3 mile south of Florida Highway 50 and 0.6 mile west of power transmission line, SE1/4NW1/4 sec. 33, T. 22 S., R. 18 E.:

O1—1 inch to 0; discontinuous root mat; pine needles; partially decomposed organic material, leaves, stems.

A1—0 to 4 inches; gray (10YR 5/1) rubbed fine sand; single grained; loose; many uncoated sand grains; many fine and common medium roots; medium acid; clear wavy boundary.

C1—4 to 24 inches; brownish yellow (10YR 6/6) fine sand; few fine faint yellowish brown mottles; single grained; loose; common fine charcoal fragments; many uncoated sand grains; many fine and medium and few large roots; very strongly acid; gradual wavy boundary.

C2—24 to 65 inches; yellow (10YR 7/6) fine sand; single grained; loose; many uncoated sand grains; many fine and medium and few large roots; strongly acid; gradual diffuse boundary.

C3—65 to 85 inches; yellow (10YR 8/6) fine sand; single grained; loose; many uncoated sand grains; few fine roots; medium acid.

Sand thickness exceeds 80 inches. Soil reaction ranges from very strongly acid to medium acid throughout.

The A1 horizon has hue of 10YR, value of 4 or 5, and chroma of 1 or 2. Thickness is 2 to 4 inches.

The C horizon has hue of 10YR, value of 5 through 8, and chroma of 3 through 6. Some pedons are mottled with white or light gray, uncoated sand grains. The C horizon extends to a depth of 80 inches or more.

Basinger series

The Basinger series is a member of the siliceous, hyperthermic family of Spodic Psammaquents. It consists of nearly level, poorly drained soils in poorly defined drainageways, wet depressions, river flood plains, and sloughs in the flatwoods. Slope is less than 2 percent. In most years, under natural conditions, the water table is at a depth of less than 10 inches for 2 to 6 months annually and at a depth of 10 to 30 inches for more than 6 months. Depressions are covered with standing water for 6 to 9 months or more in most years. Where the soils are on flood plains, they are flooded frequently.

Basinger soils are geographically closely associated with Anclote, Delray, EauGallie, Floridana, Myakka, Pineda, Tavares, and Wabasso soils. Anclote, Delray, and Floridana soils have a mollic epipedon and are generally in depressional areas of the flatwoods. EauGallie and Wabasso soils have spodic and argillic horizons. Myakka soils have a spodic horizon. Pineda soils have a Bir horizon and an argillic horizon. Tavares soils are moderately well drained and are on higher ridges adjacent to the flatwoods.

Typical profile of Basinger fine sand in a wooded area, approximately 0.4 mile south of Spring Hill entrance and 0.2 mile northwest of U.S. Highway 19, SW1/4NW1/4 sec. 29, T. 23 S., R. 17 E.:

A1—0 to 3 inches; black (N 2/0) fine sand; weak medium granular structure; very friable; many fine and medium roots; many uncoated sand grains; extremely acid; clear wavy boundary.

A2—3 to 8 inches; light brownish gray (10YR 6/2) fine sand; single grained; loose; few fine faint dark gray stains; many fine and medium roots; very strongly acid; clear wavy boundary.

A2&Bh—8 to 24 inches; grayish brown (10YR 5/2) fine sand intermixed with many 1/8- to 1/2-inch thick discontinuous lenses and streaks of very dark grayish brown (10YR 3/2) fine sand; common medium distinct dark reddish brown (5YR 3/4) and dark brown (7.5YR 4/4) weakly cemented fragments; single grained; loose; few fine and medium roots; many uncoated sand grains; strongly acid; gradual wavy boundary.

C1—24 to 40 inches; light gray (10YR 7/2) fine sand; common medium distinct dark grayish brown (10YR 4/2) stains along root channels; single grained; loose; few fine and medium roots; strongly acid; gradual wavy boundary.

C2—40 to 80 inches; white (10YR 8/2) fine sand; common medium distinct dark brown (10YR 4/3) stains on root channels; single grained; loose; few fine roots; strongly acid.

The sand is 80 inches thick or more. Reaction ranges from extremely acid to strongly acid throughout the profile. The content of organic matter in the C1 and C2 horizons is less than 1 percent, and iron content is less than 0.5 percent.

The A1 horizon has hue of 10YR, value of 2 through 4, and chroma of 2 or less. The A1 horizon is 2 to 8 inches thick.

The A2 horizon has hue of 10YR, value of 4 through 7, and chroma of 3 or less. Thickness is about 6 to 20 inches.

The A&Bh horizon has hue of 10YR, 7.5YR, or 5YR; value of 3 through 6; and chroma of 2 through 4. These colors are mixed. The Bh part of this horizon does not meet the requirements of a spodic horizon. This horizon has common mottles in shades of gray, brown, and reddish brown. Thickness of the A&Bh horizon is 10 to 20 inches.

The C horizon has hue of 10YR or 2.5Y, value of 5 through 8, and chroma of 1 through 3.

Blichton series

The Blichton series is a member of the loamy, siliceous, hyperthermic family of Arenic Plinthic Paleaquults. It consists of nearly level to sloping, poorly drained soils that formed in thick deposits of sandy and loamy sediments overlying clayey material. The water table is at a depth of less than 10 inches for cumulative periods of 1 to 4 months during most years. In drier seasons it recedes to a depth of more than 40 inches. Where slopes are more than 2 percent, wetness is caused primarily by seepage from higher lying areas.

Blichton soils are geographically closely associated with Flemington, Kanapaha, Kendrick, Micanopy, Nobleton, and Wauchula soils. Flemington and Kanapaha soils are in similar landscape positions as Blichton soils. The argillic horizon is within 20 inches of the surface in the Flemington soils and below a depth of 40 inches in Kanapaha soils. Kendrick soils are well drained. Micanopy soils are slightly better drained than Blichton soils and have a sandy clay argillic horizon within a depth of 20 inches. Nobleton soils are less than 5 percent plinthite. Wauchula soils have a spodic horizon.

Typical profile of Blichton loamy fine sand, 0 to 2 percent slopes, in an area of planted pines, approximately 25 yards south of Florida Highway 476 and 50 yards west of U.S. Highway 41, NW1/4NE1/4 sec. 30, T. 21 S., R. 20 E.:

Ap—0 to 9 inches; very dark gray (10YR 3/1) loamy fine sand; moderate medium granular structure; very friable; many fine and few large roots; strongly acid; gradual smooth boundary.

A21—9 to 23 inches; dark grayish brown (10YR 4/2) loamy fine sand; common medium distinct very dark gray (10YR 3/1) stains; weak medium granular structure; very friable; common fine and medium roots; medium acid; clear smooth boundary.

A22—23 to 28 inches; gray (10YR 5/1) loamy fine sand; common medium distinct brown (7.5YR 4/4) mottles; weak medium granular structure; very friable; few fine and medium roots; many small dark reddish brown (5YR 3/3) and reddish brown (5YR 4/4) iron nodules; strongly acid; clear wavy boundary.

B21tg—28 to 34 inches; gray (10YR 5/1) sandy clay loam; common medium distinct brown (7.5YR 4/4) mottles; moderate medium granular structure; friable; few fine and medium roots; common hard iron nodules and few white weathered phosphatic pebbles; clay bridging between sand grains; strongly acid; clear wavy boundary.

B22tg—34 to 49 inches; gray (10YR 5/1) sandy clay loam; many medium prominent reddish brown (5YR 4/3) and common medium distinct reddish brown (5YR 4/4) mottles; moderate medium subangular blocky structure; friable; few fine roots; 6 percent plinthite that have centers of dark reddish brown (2.5YR 3/4) and outer rims of yellowish red (5YR 5/6); faint discontinuous clay films; very strongly acid; gradual smooth boundary.

B23tg—49 to 63 inches; gray (10YR 5/1) sandy clay; many medium prominent reddish brown (5YR 4/3) and common medium distinct reddish brown (5YR 4/4) mottles; moderate medium subangular blocky structure; firm; few fine roots; 4 percent plinthite; faint discontinuous clay films; very strongly acid; clear wavy boundary.

Cg—63 to 75 inches; light gray (2.5YR 7/2) clay; common medium distinct light yellowish brown (10YR 6/4) and common medium prominent yellowish red (5YR 5/6) mottles; coarse medium subangular blocky structure; firm; few fine roots; many very small white phosphatic pebbles; clay films on ped faces; very strongly acid.

Reaction ranges from medium acid to very strongly acid in the A horizon and from strongly acid to very strongly acid in the remainder of the profile. The iron nodules and phosphatic pebbles range from 1 to 5

percent, by volume, in the A horizon and in the upper part of the Btg horizon.

The Ap or A1 horizon has hue of 10YR, value of 3 or 4, and chroma of 1 or 2. The Ap or A1 horizon is 4 to 10 inches thick.

The A2 horizon has hue of 10YR, value of 4 through 6, and chroma of 1 or 2. In some profiles this horizon has few to common mottles in shades of gray, brown, or yellow. Thickness is 16 to 30 inches.

The Btg horizon has hue of 7.5YR or 10YR, value of 5 through 7, and chroma of 1 or 2. Texture is sandy clay loam in the upper part and sandy clay loam or sandy clay in the lower part. Weighted clay content in the upper 20 inches of the Btg horizon is dominantly 25 to 35 percent, but ranges from 18 to 35 percent. The content of plinthite is 5 to 25 percent between depths of 26 and 60 inches. Some profiles have a B1g horizon of fine sandy loam about 3 to 6 inches thick.

The Cg horizon has hue of 5Y, 2.5Y, or 10YR, value of 5 through 7, and chroma of 2 or less. Texture is sandy clay or clay. In some profiles the texture is sandy loam or sandy clay loam and has lenses of loamy sand or sandy loam.

Candler series

The Candler series is a member of the uncoated, hyperthermic family of Typic Quartzipsamments. It consists of nearly level to sloping, excessively drained, sandy soils that formed in thick beds of unconsolidated sandy marine, eolian, or fluvial sediments. These soils are in the upland, sandhill areas of the county. The water table is below a depth of 80 inches throughout the year. Slopes are smooth to concave and range from 0 to 8 percent.

Candler soils are geographically closely associated with Arredondo, Astatula, Lake, Paola, and Tavares soils. Arredondo soils are in about the same position on the landscape and differ by having coated sand in the A2 horizon and by having an argillic horizon. Astatula soils differ by not having lamellae. Lake soils have coated sand grains between depths of 10 and 40 inches. Paola soils differ by having a B&A horizon and by not having lamellae. All these soils are in about the same position in the landscape except Tavares soils, which are in lower areas. Tavares soils differ mainly by having evidence of wetness between depths of about 40 to 60 inches.

Typical profile of Candler fine sand, 0 to 5 percent slopes, in a wooded area, 3 miles east of junction of U.S. Highway 19 and Florida Highway 50, 100 yards south of Highway 50, NE1/4NE1/4 sec. 32, T. 22 S., R. 19 E.:

A1—0 to 4 inches; dark grayish brown (10YR 4/2) fine sand; single grained; loose; many fine and medium roots; many uncoated sand grains; strongly acid; clear smooth boundary.

A21—4 to 9 inches; brown (10YR 5/3) fine sand; common medium distinct grayish brown (10YR 5/2) mottles; single grained; loose; many fine and medium and few large roots; many uncoated sand grains; strongly acid; clear wavy boundary.

A22—9 to 20 inches; light yellowish brown (10YR 6/4) fine sand; few common distinct grayish brown (10YR 5/2) mottles; single grained; loose; common fine and medium roots; many uncoated sand grains; strongly acid; clear wavy boundary.

A23—20 to 48 inches; brownish yellow (10YR 6/6) fine sand; single grained; loose; few fine and medium roots; many uncoated sand grains; strongly acid; gradual wavy boundary.

A2&B—48 to 80 inches; very pale brown (10YR 7/4) fine sand; single grained; loose; few roots; brown (7.5YR 5/4) loamy fine sand lamellae about 1 to 3 mm thick and 3 to 6 mm long; many uncoated sand grains; strongly acid.

Reaction is strongly acid or very strongly acid except in limed areas. Depth to the A2&B horizon ranges from 40 to 80 inches. Content of silt plus clay is less than 5 percent in the 10- to 40-inch control section.

The A1 or Ap horizon has hue of 10YR, value of 3 through 5, and chroma of 1 or 2. Thickness is 2 to 8 percent.

The A2 horizon has hue of 10YR, value of 5 through 8, and chroma of 3 through 6. Texture is generally fine sand but ranges to sand.

The A2 part of the A2&B horizon has hue of 10YR, value of 7 or 8, and chroma of 1 through 4. Texture is fine sand or sand. The B part of the A2&B horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 through 8. Texture is fine sand or loamy fine sand. The individual lamellae range from 1 to 3 mm in thickness. The total thickness of the lamellae within a depth of 80 inches is normally 5 to 12 mm, but ranges from 1 to 55 mm.

Delray series

The Delray series is a member of the loamy, mixed, hyperthermic family of Grossarenic Argiaquolls. It consists of very poorly drained, nearly level soils that formed in marine, sandy and loamy material. These soils are along drainageways and in depressions. Under natural conditions the water stands on the surface for more than 6 months each year.

Delray soils are geographically closely associated with Anclote, Basinger, Floridana, Okeelanta, and Pompano soils. Anclote soils are in about the same position on the landscape as Delray soils, but do not have an argillic horizon. Basinger soils have an A2&Bh horizon, but not a mollic epipedon. Floridana soils occupy about the same position on the landscape, but differ by having an argillic horizon between depths of 20 and 40 inches. Okeelanta soils are organic. Pompano soils are poorly drained and do not have mollic and B2tg horizons.

Typical profile of Delray fine sand in a wooded area, 1 mile south of Clay Sink Road, 1/2 mile west of Richloam fire tower, NE1/4SE1/4 sec. 8, T. 23 S., R. 22 E.:

A1—0 to 13 inches; black (N 2/0) fine sand; weak medium granular structure; very friable; common fine and medium roots; organic matter content about 3 percent; medium acid; clear smooth boundary.

A21—13 to 27 inches; dark gray (10YR 4/1) fine sand; common medium distinct yellowish brown (10YR 5/4) mottles; single grained; loose; few fine roots; many uncoated sand grains; medium acid; clear wavy boundary.

A22—27 to 35 inches; dark grayish brown (10YR 4/2) fine sand; single grained; loose; few fine roots; medium acid; gradual wavy boundary.

A23—35 to 55 inches; light brownish gray (10YR 6/2) fine sand; single grained; loose; few fine roots; neutral; abrupt wavy boundary.

B21tg—55 to 75 inches; grayish brown (2.5Y 5/2) sandy clay loam; weak medium subangular blocky structure; firm; few fine and medium roots; few sand pockets; neutral; gradual wavy boundary.

B22tg—75 to 80 inches; gray (N 6/0) sandy clay loam; few fine faint light olive brown and common medium distinct gray (N 5/0) mottles; weak medium subangular blocky structure; firm; few fine roots; neutral.

Reaction ranges from medium acid to neutral throughout the profile.

The A1 horizon has hue of 2.5Y or 10YR, value of 2 or 3, and chroma of 1 or less. The A1 horizon is 10 to 24 inches thick.

The A2 horizon has hue of 10YR, value of 4 through 6, and chroma of 2 and has few to common mottles of brown or yellow. Some profiles have thin, very dark gray or black tongues of material from the A1 horizon extending into this horizon. Thickness of the A2 horizon ranges from 27 to 55 inches.

The B2tg horizon has hue of 10YR through 5Y, value of 4 through 6, and chroma of 2 or less, with or without mottles of brown, yellow, or

gray. Texture is fine sandy loam or sandy clay loam. The B2tg horizon extends below a depth of 80 inches.

EauGallie series

The EauGallie series is a member of the sandy, siliceous, hyperthermic family of Alfic Haplaquods. It consists of nearly level, poorly drained, sandy soils that formed in sandy and loamy marine deposits. These soils are in broad flatwood areas. Slope is less than 2 percent. In most years, under natural conditions, the water table is at a depth of 10 inches for 1 to 4 months and within 40 inches for more than 6 months.

EauGallie soils are geographically closely associated with Anclote, Basinger, Delray, Floridana, Myakka, and Wabasso soils. Anclote, Delray, and Floridana soils have a mollic epipedon and are generally in the depressional areas of the flatwoods. Basinger soils do not have a spodic or an argillic horizon. Wabasso soils have an argillic horizon within 40 inches of the surface.

Typical profile of EauGallie fine sand in a wooded area, approximately 0.1 mile west of clearing and 20 feet north of Clay Sink Road, SE1/4SW1/4 sec. 14, T. 23 S., R. 22 E.:

A1—0 to 5 inches; black (10YR 2/1) rubbed, salt and pepper appearance unrubbed, fine sand; weak fine granular structure; very friable; many fine and medium roots; medium acid; clear wavy boundary.

A21—5 to 11 inches; gray (10YR 5/1) fine sand; common medium distinct vertical streaks of very dark gray (10YR 3/1); single grained; loose; common fine and medium roots; medium acid; clear wavy boundary.

A22—11 to 17 inches; grayish brown (10YR 5/2) fine sand; single grained; loose; common fine roots; medium acid; clear wavy boundary.

B21h—17 to 20 inches; black (5YR 2/1) fine sand; weak medium subangular blocky structure; firm; weakly cemented; sand grains are coated with organic matter; few fine roots; strongly acid; clear wavy boundary.

B22h—20 to 26 inches; dark reddish brown (5YR 3/2), 80 percent, and dark reddish brown (5YR 2/2), 20 percent, fine sand; weak medium subangular blocky structure; firm; weakly cemented; sand grains are coated with organic matter; few fine roots; strongly acid; clear wavy boundary.

B31—26 to 36 inches; brown (7.5YR 4/4) fine sand; single grained; loose; few fine roots; about 15 percent 1 to 4 mm dark brown (7.5YR 3/2) weakly cemented fragments; medium acid; gradual smooth boundary.

B32—36 to 48 inches; very pale brown (10YR 7/3) fine sand; few fine faint brown mottles; single grained; loose; few fine roots; medium acid; gradual smooth boundary.

A'2g—48 to 72 inches; grayish brown (10YR 5/2) fine sand; single grained; loose; medium acid; clear wavy boundary.

B'tg—72 to 80 inches; light brownish gray (2.5Y 6/2) fine sandy loam; weak medium granular structure; very friable; medium acid.

Reaction ranges from very strongly acid to medium acid in the A and Bh horizons and from medium acid to mildly alkaline in the B3, A'2, and B'tg horizons.

The A1 horizon has hue of 10YR, value of 2 through 4, and chroma of 1. If undisturbed, it is a mixture of uncoated sand grains and organic matter.

The A2 horizon has hue of 10YR, value of 5 through 8, and chroma of 1 or 2. Texture is fine sand or sand. The A horizon is 15 to 30 inches thick.

The Bh horizon has hue of 5YR, 7.5YR, or 10YR with value of 2 and chroma of 1 or 2, or with value of 3 and chroma of 2 or 3. Texture is fine sand or sand, and the sand grains are generally weakly cemented by organic matter. Thickness ranges from 8 to 20 inches.

The B3 horizon has hue of 7.5YR or 10YR, value of 3 through 7, and chroma of 3 or 4. It commonly has weakly cemented Bh fragments about 1/16 to 1/2 inch in diameter in the upper 8 to 12 inches, but some profiles do not have the fragments. Texture is fine sand or sand. Thickness ranges from 16 to 28 inches.

The A'2 horizon has hue of 10YR or 2.5Y, value of 4 through 6, and chroma of 1 or 2. Texture is fine sand or sand. Thickness ranges from about 5 to 25 inches.

The B'tg horizon has hue of 10YR or 2.5Y, value of 4 through 6, and chroma of 1 or 2. Texture is sandy loam, fine sandy loam, or sandy clay loam. In some pedons, the B'tg horizon is mottled with brown, yellow, and gray. Few to common, fine and medium nodules of white (10YR 8/1) carbonatic material are in the B'tg horizon in many profiles. Thickness ranges from 6 to 18 inches.

Electra Variant

The Electra Variant series is a member of the sandy, siliceous, hyperthermic family of Ultic Haplohumods. It consists of nearly level to gently sloping, somewhat poorly drained soils that formed in unconsolidated loamy marine sediments. These soils occupy upland ridges that have been partially drained by natural dissection. The water table is perched above the Bt horizon at a depth of 20 to 40 inches for cumulative periods of 4 months during most years and recedes to a depth of more than 40 inches during drier periods.

Electra Variant soils are geographically closely associated with Blichton, Myakka, Pomello, and Wauchula soils. Blichton soils are poorly drained and do not have a spodic horizon. Myakka and Pomello soils do not have an argillic horizon. Myakka soils are poorly drained, and Pomello soils are moderately well drained. Wauchula soils have an argillic horizon beneath the spodic horizon within a depth of 40 inches. Blichton, Myakka, and Wauchula soils are wetter and slightly lower than Electra Variant soils. Pomello soils are in about the same position in the landscape as Electra Variant soils.

Typical profile of Electra Variant fine sand, 0 to 5 percent slopes, in a wooded area, approximately 3/4 mile south of north section line and 10 feet west of trail, NE1/4SW1/4 sec. 3, T. 23 S., R. 19 E.:

A11—0 to 3 inches; dark gray (10YR 4/1) rubbed, salt and pepper appearance when undisturbed, fine sand; weak fine granular structure; friable; many fine and medium roots; very strongly acid; clear smooth boundary.

A12—3 to 5 inches; gray (10YR 5/1) fine sand; single grained; loose; many fine and medium roots; many uncoated sand grains; few fine charcoal fragments; very strongly acid; gradual wavy boundary.

A2—5 to 24 inches; white (10YR 8/1) fine sand; single grained; loose; many fine and medium roots; strongly acid; gradual irregular boundary.

B21h—24 to 26 inches; dark reddish brown (5YR 2/2) loamy fine sand; weak medium subangular blocky structure; weakly cemented, common fine roots; sand grains are well coated with organic matter; very strongly acid; gradual irregular boundary.

B22h—26 to 30 inches; dark reddish brown (5YR 3/2) fine sand; weak medium subangular blocky structure; weakly cemented; common fine roots; few dark reddish brown (5YR 2/2) nodules; very strongly acid; gradual wavy boundary.

B3—30 to 44 inches; dark yellowish brown (10YR 4/4) fine sand; common medium distinct brown (7.5YR 4/4) mottles and few fine faint black mottles; single grained; loose; few fine roots; strongly acid; gradual wavy boundary.

A'2—44 to 53 inches; brown (10YR 5/3) fine sand; common medium distinct yellowish brown mottles; weak medium subangular blocky structure; friable; few fine roots; strongly acid; gradual wavy boundary.

B21tg—53 to 73 inches; light brownish gray (10YR 6/2) sandy clay loam; common medium distinct yellowish brown (10YR 5/8) mottles and few fine faint dark grayish brown, brown, and light gray mottles; weak medium subangular blocky structure; friable; few fine roots; very strongly acid; gradual wavy boundary.

B'22tg—73 to 80 inches; grayish brown (2.5YR 5/2) sandy clay loam; common medium distinct yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; few pockets of fine sandy loam; strongly acid.

Reaction is very strongly acid or strongly acid throughout.

The A1 horizon has hue of 10YR or 2.5Y, value of 2 through 5, and chroma of 2 or less. When undisturbed, this horizon has a salt and pepper appearance. Thickness ranges from 2 to 5 inches.

The A2 horizon has hue of 10YR, value of 5 through 8, and chroma of 2 or less. Texture is fine sand or sand. Total thickness of the A horizon ranges from 20 to 30 inches.

The Bh horizon has hue of 10YR, 7.5YR, or 5YR; value of 2 or 3; and chroma of 1 through 3. Texture is sand, fine sand, or loamy fine sand. Most sand grains are coated with organic matter. Thickness of the Bh horizon ranges from about 6 to 14 inches.

The B3 horizon has hue of 10YR, 5YR, or 7.5YR; value of 4 or 5; and chroma of 4 through 8. Texture is fine sand or sand. Thickness is about 6 to 16 inches.

Where present, the A'2 horizon has hue of 10YR, value of 5 through 7, and chroma of 1 through 3. Texture is fine sand or sand. Thickness ranges from 0 to 6 inches.

The B'tg horizon has hue of 10YR or 2.5Y, value of 5 through 7, and chroma of 2 through 4. The B'tg horizon is mottled with red, yellow, gray, or brown. Texture is sandy loam, fine sandy loam, or sandy clay loam. Depth to the B'tg horizon ranges from 41 to about 79 inches.

Flemington series

The Flemington series is a member of the very fine, montmorillonitic, hyperthermic family of Typic Albaqualfs. It consists of nearly level to strongly sloping, poorly drained soils that formed in thick beds of loamy and clayey marine sediments. These soils are on low flats, ridges, and side slopes in the uplands. In most years, under natural conditions, the water table is perched in the A horizon, and the upper part of the Bt horizon is saturated for 1 to 4 months during wet seasons. On slopes, these soils are affected by seepage.

Flemington soils are geographically closely associated with Blichton, Micanopy, Nobleton, and Williston soils. Blichton and Nobleton soils have an A horizon more than 20 inches thick. Micanopy soils are somewhat poorly drained. Williston soils are well drained and have limestone within 40 inches of the surface. The associated soils are all in similar positions on the landscape.

Typical profile of Flemington fine sandy loam, 0 to 2 percent slopes, in a wooded area, 100 feet east of railroad crossing on Florida Highway 577 and 50 feet north of Florida Highway 577, NE1/4NE1/4 sec. 27, T. 22 S., R. 19 E.:

A1—0 to 5 inches; very dark gray (10YR 3/1) fine sandy loam; weak medium granular structure; very friable; many fine and medium, and common large roots; strongly acid; abrupt smooth boundary.

B21tg—5 to 13 inches; gray (10YR 5/1) clay; common medium distinct strong brown (7.5YR 5/6) and yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; firm; many fine medium and common large roots; very strongly acid; abrupt wavy boundary.

B22tg—13 to 36 inches; light brownish gray (10YR 6/2) clay; common medium distinct strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; very firm; common fine and medium roots; few slickensides; thin distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

B23tg—36 to 66 inches; light gray (10YR 7/2) clay; common medium distinct strong brown (7.5YR 5/6) mottles; strong medium subangular blocky structure; very firm; few fine roots; few discontinuous distinct clay films along structure breaks; very strongly acid; gradual wavy boundary.

Cg—66 to 81 inches; light gray (10YR 7/2) clay; common medium distinct light olive brown (2.5YR 5/6) mottles; massive; firm; few fine roots; gray sand pockets are present in cracks in the lower part of the horizon; very strongly acid.

The reaction is strongly acid or very strongly acid except in limed areas. Base saturation is 35 to 50 percent at a depth of 50 inches in the Btg horizon. Fragments and cobbles of limestone make up from 0 to 5 percent of the profile.

The A1 or Ap horizon has hue of 10YR, value of 2 or 3, and chroma of 2 or less. Thickness of the A1 horizon is about 4 to 6 inches.

Where present, the A2 horizon has hue of 10YR, value of 4 through 6, and chroma of 2 or less. Texture of the A2 horizon is loamy sand, loamy fine sand, or fine sandy loam. Thickness is 0 to 10 inches.

The Btg horizon has hue of 10YR, 2.5Y, or N; value of 4 through 6; and chroma of 2 or less. Weighted clay content in the upper 20 inches of the Btg horizon ranges from about 60 to 75 percent, and silt content is less than 20 percent. Content of plinthite is less than 5 percent in the Btg horizon. This horizon is mottled with brown, yellow, or red. Texture is sandy clay or clay.

The Cg horizon has hue of 10YR, 5Y, and 5GY; value of 6 or 7; and chroma of 1 or 2. This horizon is mottled with red, yellow, brown, and gray.

Floridana series

The Floridana series is a member of the loamy, siliceous, hyperthermic family of Arenic Argiaquolls. It consists of nearly level, very poorly drained soils that formed in sandy and loamy marine sediments. These soils are in poorly defined drainageways and depressions and on flood plains. In most years, under natural conditions, the water table is at a depth of less than 10 inches for 1 to 3 months. Depressions are covered with water for more than 6 months in most years. Slopes are less than 2 percent.

Floridana soils are geographically closely associated with Anclote, Basinger, Delray, Okeelanta, Pineda, Pompano, and Terra Ceia soils. Anclote soils do not have an argillic horizon. Basinger soils have an A2&Bh horizon and do not have a mollic epipedon. Delray soils have an argillic horizon between depths of 40 and 80 inches. Pineda soils are better drained than Floridana soils and occupy a slightly higher position in the landscape. Okeelanta and Terra Ceia soils are organic. Pompano soils are poorly drained and do not have a mollic epipedon or an argillic horizon.

Typical profile of Floridana fine sand in a grassy depression, 1 mile north of Florida Highway 50 and 1 1/2 miles east of U.S. Highway 301, NW1/4NE1/4 sec. 6, T. 22 S., R. 22 E.:

A11—0 to 9 inches; black (N 2/0) fine sand; weak medium granular structure; very friable; many fine and medium roots; slightly acid; clear wavy boundary.

A12—9 to 16 inches; very dark gray (10YR 3/1) fine sand; common medium distinct dark brown (10YR 4/1) mottles; single grained; loose; few fine roots; slightly acid; gradual wavy boundary.
A21—16 to 22 inches; grayish brown (2.5Y 5/2) fine sand; single grained; loose; few fine and medium roots; neutral; gradual wavy boundary.
A22—22 to 27 inches; light gray (10YR 7/1) fine sand; single grained; loose; few fine and medium roots; neutral; abrupt smooth boundary.
B21tg—27 to 39 inches; gray (N 5/0) sandy clay loam; common medium distinct yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; very friable; few decayed roots; few sand lenses; neutral; gradual wavy boundary.
B22tg—39 to 65 inches; gray (N 6/0) sandy clay loam; common medium distinct light olive brown (2.5Y 5/4) mottles; weak medium subangular blocky structure; very friable; few decayed roots; few clay films on ped surfaces; neutral; gradual wavy boundary.
B23tg—65 to 80 inches; light gray (N 7/0) sandy clay loam; few fine faint (5Y 5/2) grayish brown mottles; weak medium subangular blocky structure; friable; slightly sticky; slightly plastic; few decayed roots; few clay films on ped surfaces; neutral.

Reaction ranges from slightly acid to mildly alkaline in all horizons.

The A1 horizon has hue of 10YR, N, or 2.5Y; value of 3 or less; and chroma of 2 or less. The A1 horizon is 10 to 16 inches thick.

The A2 horizon has hue of 10YR, N, or 2.5Y; value of 4 through 7; and chroma of 2 or less. Texture is fine sand or sand. Combined thickness of the A1 and A2 horizon ranges from 20 to 40 inches.

The Btg horizon has hue of 10YR, N, or 2.5Y; value of 5 through 7; and chroma of 2 or less. Some profiles are mottled with gray, yellow, or brown. Texture is sandy loam or sandy clay loam. Some profiles have pockets of sand or loamy sand in this horizon. Clay content ranges from 14 to 30 percent, but is normally 16 to 23 percent.

Floridana Variant

The Floridana Variant series is a member of the loamy, siliceous, hyperthermic family of Typic Umbraqualfs. It consists of nearly level, very poorly drained soils that formed in thick beds of medium textured marine and fluvial deposits. These soils are in poorly defined drainageways and depressions. In most years, under natural conditions, the water table is above the surface for more than 6 months.

Floridana Variant soils are geographically closely associated with Blichton, Flemington, and Kanapaha soils. The argillic horizon of Blichton soils is more than 5 percent plinthite. These soils do not have a mollic epipedon. Flemington soils have clayey A and Btg horizons less than 20 inches thick. Kanapaha soils are poorly drained and have an A horizon more than 40 inches thick. All the associated soils occupy higher positions in the landscape than the Floridana Variant soils.

Typical profile of Floridana Variant loamy fine sand in a grassy area, 1 mile south of Florida Highway 50 and 300 feet east of California Street, NW1/4SE1/4 sec. 36, T. 22 S., R. 18 E.:

A11—0 to 8 inches; black (10YR 2/1) loamy fine sand; weak fine granular structure; very friable; many fine and medium roots; very strongly acid; clear wavy boundary.
A12—8 to 15 inches; very dark gray (10YR 3/1) fine sand; weak medium granular structure; very friable; many fine and medium roots; very strongly acid; clear wavy boundary.
A21—15 to 18 inches; dark grayish brown (10YR 4/2) fine sand; weak medium granular structure; very friable; many fine and medium roots; very strongly acid; clear wavy boundary.
A22—18 to 22 inches; light gray (10YR 7/2) fine sand; single grained; loose; many fine and medium roots; very strongly acid; abrupt smooth boundary.
B21tg—22 to 42 inches; grayish brown (10YR 5/2) sandy clay loam; common medium distinct yellowish brown (10YR 5/4) and common medium faint dark grayish brown (10YR 4/2) mottles; weak medium subangular blocky structure; friable; few fine roots; very strongly acid; clear wavy boundary.
B22tg&A'2—42 to 59 inches; dark grayish brown (10YR 4/2) fine sandy loam that has large pockets of loamy sand; common medium distinct light brownish gray (10YR 6/2) and yellowish brown (10YR 5/4) mottles; weak medium subangular blocky structure; friable; few fine roots; very strongly acid; clear wavy boundary.
B'23tg—59 to 80 inches; dark gray (10YR 4/1) sandy clay; moderate medium subangular blocky structure; very firm; few fine roots; very strongly acid.

Reaction is strongly acid or very strongly acid throughout.

The A1 horizon has hue of 10YR or 7.5YR, value of 3 or less, and chroma of 2 or less. The A1 horizon is 10 to 20 inches thick.

The A2 horizon has hue of 10YR or 2.5Y, value of 4 through 7, and chroma of 1 or less. Texture is fine sand or loamy fine sand. In some profiles this horizon has mottles of dark grayish brown and light gray. Combined thickness of the A1 and A2 horizons ranges from 20 to 40 inches.

The Btg horizon has hue of 10YR or N, value of 4 through 7, and chroma of 2 or less, with or without mottles of yellow, brown, and gray. Texture of the B21tg horizon is fine sandy loam or sandy clay loam. The B22tg&A'2 horizon is fine sandy loam or loamy sand that has pockets of fine sand or loamy fine sand. The B'23tg horizon has textures of sandy clay or clay. Weighted clay content in the upper 20 inches of the Btg horizon is 14 to 30 percent.

Homosassa series

The Homosassa series is a member of the sandy, siliceous, hyperthermic family of Typic Sulfaquents. It consists of nearly level, very poorly drained soils that formed in sandy marine sediments. These soils are in tidal marshes along the west coast of the county. The water table fluctuates during normal tides, but normally this soil is flooded daily throughout the year.

Homosassa soils are geographically associated with Aripeka, Lacoochee, and Weekiwachee soils. Aripeka soils are better drained and have low N values and low sulfur content. Lacoochee soils do not have a thick, dark colored A1 horizon and have soft limestone at a depth of less than 20 inches. Weekiwachee soils are organic. Aripeka and Lacoochee soils occupy the higher areas of the landscape.

Typical profile of Homosassa mucky fine sandy loam, 2.7 miles west of junction of U.S. Highway 19 and Florida Highway 595, SE1/4NE1/4 sec. 26, T. 23 S., R. 16 E.:

A11—0 to 2 inches; black (10YR 2/1) mucky fine sandy loam; moderate medium granular structure; friable; slightly sticky; many fine roots; about 16 percent organic matter; N value is 3.22; neutral; clear smooth boundary.
A12—2 to 8 inches; very dark gray (10YR 3/1) mucky fine sandy loam; few medium distinct dark grayish brown (10YR 4/2) mottles; moderate medium granular structure; very friable; many fine roots; about 11 percent organic matter; N value is 4.04; neutral; gradual wavy boundary.
A13—8 to 15 inches; very dark gray (10YR 3/1) rubbed, loamy fine sand; common medium distinct dark grayish brown (10YR 4/2) mottles; moderate medium granular structure; friable; few fine roots; about 6 percent organic matter; N value is 2.11; neutral; gradual wavy boundary.
C1—15 to 23 inches; dark grayish brown (10YR 4/2) loamy fine sand; few medium faint yellowish red mottles and very dark gray vertical

streaks; weak medium granular structure; friable; few fine roots; about 5 percent organic matter and 0.8 percent sulfur; slightly acid; N value is 1.73; gradual wavy boundary.

C2—23 to 27 inches; dark grayish brown (10YR 4/2) loamy fine sand; few medium faint yellowish red mottles; weak fine granular structure; friable; few fine roots; few limestone fragments 1/2 to 1 inch across; about 5 percent organic matter and 0.9 percent sulfur; neutral; N value is 1.27; abrupt irregular boundary.

IICr—27 to 33 inches; white (10YR 8/1) soft limestone; massive; firm; about 35 percent hard limestone fragments; most roots do not penetrate this layer but are turned at the upper boundary; moderately alkaline; calcareous; abrupt irregular boundary.

IIIR—33 inches; hard limestone that can be chipped but not dug with a spade.

Combined thickness of the A and C horizons is 20 to 35 inches. Sulfur content is more than 0.75 percent within a depth of 20 inches. Depth to the IIIR horizon ranges from 23 to 40 inches.

The A horizon has hue of 10YR or 2.5Y, value of 3 or less, and chroma of 2 or less. Few to common mottles of gray and brown are in the A12 and A13 horizons. Organic matter content is more than 10 percent. The A13 horizon is loamy fine sand or fine sand. Organic matter content is 5 to 10 percent. Sulfur content of the A horizon is less than 0.75 percent, and N value is more than 2.0. Soil reaction before drying ranges from neutral to mildly alkaline; after drying it ranges from very strongly acid to medium acid. Thickness of the A horizon ranges from 10 to 16 inches.

The C horizon has hue of 10YR or 2.5Y, value of 4 through 7, and chroma of 2 or less, with or without mottles in shades of gray, yellow, or red. Texture is fine sand or loamy fine sand. Organic matter content is less than 5 percent. Sulfur content is more than 0.75 percent, and N value ranges from 0.7 to 2.0. Soil reaction ranges from slightly acid to mildly alkaline; after drying, it ranges from extremely acid to medium acid. Thickness of the C horizon ranges from 4 to 15 inches.

The IICr horizon is in hue of 10YR, value of 4 through 7, and chroma of 1 or 2. Hard limestone fragments occur randomly throughout the horizon and make up from about 20 to 35 percent, by volume, of the horizon. Solution holes range from none to about three in each pedon. Where present, they are filled with loamy fine sand and hard limestone fragments.

Kanapaha series

The Kanapaha series is a member of the loamy, siliceous, hyperthermic family of Grossarenic Paleaquults. It consists of nearly level, poorly drained, sandy soils that formed in thick beds of sandy and loamy marine sediments. They are in low areas on uplands. The water table is at a depth of less than 10 inches for 1 to 3 months and between depths of 10 and 40 inches for 3 to 4 months during most years. It is at a depth of more than 40 inches during drier periods.

Kanapaha soils are geographically closely associated with Arredondo, Blichton, Nobleton, and Sparr soils. Arredondo soils are well drained. Blichton soils are in about the same position in the landscape as Kanapaha soils, but differ by having an A horizon 20 to 40 inches thick. Nobleton and Sparr soils are in slightly higher areas than Kanapaha soils and are better drained. In addition, the A horizon in the Nobleton soils is 20 to 40 inches thick, and the lower part of the Btg horizon is sandy clay.

Typical profile of Kanapaha fine sand in a cleared area, approximately 20 feet west of U.S. Highway 41 and 10 feet south of woods in experimental plantings at the Plant Materials Center, NE1/4SW1/4 sec. 30, T. 21 S., R. 20 E.:

Ap—0 to 7 inches; dark gray (10YR 4/1) fine sand; weak medium granular structure; very friable; common fine roots; strongly acid; clear wavy boundary.

A12—7 to 13 inches; grayish brown (10YR 5/2) fine sand; single grained; loose; few fine roots; strongly acid; gradual smooth boundary.

A21—13 to 27 inches; gray (10YR 6/1) fine sand; single grained; loose; few fine roots; strongly acid; gradual smooth boundary.

A22—27 to 33 inches; gray (10YR 5/1) fine sand; single grained; loose; few fine roots; strongly acid; gradual smooth boundary.

A23—33 to 50 inches; light gray (10YR 7.2) fine sand; single grained; loose; few fine roots; strongly acid; clear wavy boundary.

B21tg—50 to 56 inches; gray (10YR 6/1) fine sandy loam; common medium distinct strong brown (7.5YR 5/6) mottles; weak medium granular structure; very friable; strongly acid; clear wavy boundary.

B22tg—56 to 65 inches; gray (10YR 5/1) sandy clay loam; few fine faint dark gray and few medium prominent dark red (2.5YR 3/6) and common medium distinct strong brown (7.5YR 5/6) and yellowish red (5YR 4/6) mottles; weak medium subangular blocky structure; friable; strongly acid.

Reaction is strongly acid or very strongly acid throughout the profile. Content of plinthite, weathered phosphatic pebbles, and concretions of iron range from 0 to 5 percent in the solum.

The Ap or A1 horizon has hue of 10YR, value of 2 through 5, and chroma of 1 or 2. The Ap or A1 horizon is 6 to 14 inches thick, but where the value is 2 or 3, depth does not exceed 10 inches.

The A2 horizon has hue of 10YR, value of 4 through 8, and chroma of 1 or 2. In some profiles this horizon has few to common yellowish brown, light yellowish brown, or dark grayish brown mottles.

The Btg horizon has hue of 10YR, value of 4 through 7, and chroma of 1 or 2. Texture is sandy loam or sandy clay loam, but ranges to sandy clay in the lower part. Weighted average clay content in the upper 20 inches of the Btg horizon is 16 to 35 percent. Depth to the Btg horizon ranges from 40 to 78 inches.

Kendrick series

The Kendrick series is a member of the loamy, siliceous, hyperthermic family of Arenic Paleudults. It consists of nearly level to gently sloping, well drained soils that formed in thick beds of loamy marine sediments. These soils are in upland areas. The water table is below a depth of 72 inches.

Kendrick soils are geographically closely associated with Arredondo, Blichton, Flemington, Nobleton, and Sparr soils. Arredondo soils are in landscapes similar to those of Kendrick soils, but differ by having an A horizon more than 40 inches thick. Blichton soils are at lower elevations and are poorly drained. Nobleton and Sparr soils are somewhat poorly drained and are at lower elevations. Flemington soils are poorly drained and have a clayey Btg horizon within 20 inches of the surface.

Typical profile of Kendrick fine sand, 0 to 5 percent slopes, in a wooded area, approximately 1.1 mile south of Florida Highway 572 and 50 yards east of Hancock Lake Road, SE1/4SW1/4 sec. 31, T. 23 S., R. 20 E.:

A1—0 to 4 inches; dark grayish brown (10YR 4/2) fine sand; weak medium granular structure; very friable; many fine and medium roots; very strongly acid; clear wavy boundary.

A31—4 to 11 inches; yellowish brown (10YR 5/4) fine sand; few fine faint dark gray mottles; weak medium granular structure; very friable; many fine and medium roots; strongly acid; clear wavy boundary.

A32—11 to 23 inches; brownish yellow (10YR 6/8) fine sand; weak medium granular structure; very friable; many fine and medium roots; few streaks of white uncoated sand grains; few fragments of charcoal; strongly acid; clear wavy boundary.

A33—23 to 28 inches; brownish yellow (10YR 6/6) fine sand; weak medium granular structure; very friable; many fine and medium roots; many uncoated sand grains; few fragments of charcoal; strongly acid; clear wavy boundary.

B21t—28 to 34 inches; yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; very friable; common fine and medium roots; clay bridging between sand grains; very strongly acid; clear wavy boundary.

B22t—34 to 45 inches; yellowish brown (10YR 5/6) sandy clay; common medium prominent dark red (2.5YR 3/6) and common medium distinct strong brown (7.5YR 5/8) mottles; weak medium subangular blocky structure; friable; common fine and medium roots; sand grains are bridged and coated with clay; very strongly acid; clear wavy boundary.

B23t—45 to 63 inches; mottled strong brown (7.5YR 5/6, 5/8), dark red (2.5YR 3/6, 10YR 3/6), and light gray (10YR 7/1, 6/1) sandy clay; moderate medium subangular blocky structure; firm; few fine roots; sand grains are bridged and coated with clay; very strongly acid; gradual wavy boundary.

B3—63 to 80 inches; mottled strong brown (7.5YR 5/6, 5/8), dark red (2.5YR 3/6, 10YR 3/6), and light gray (10R 7/1, 6/1) sandy clay loam that has a few dark gray (10YR 4/1) sandy loam pockets; moderate medium subangular blocky structure; firm; few clay films on ped breaks; few fine roots; very strongly acid.

Reaction is strongly acid or very strongly acid except for the A horizon in limed areas. Plinthite makes up 3 to 5 percent of the Bt horizon in some profiles.

The A1 or Ap horizon has hue of 10YR, value of 2 through 5, and chroma of 2 or less. Thickness ranges from 4 to 8 inches.

The A3 horizon has hue of 10YR, value of 4 through 6, and chroma of 3 through 8. Texture is fine sand, loamy sand, or loamy fine sand. The combined thickness of the A1 and A3 horizons ranges from 20 to 40 inches.

The B21t horizon has hue of 10YR or 7.5YR, value of 4 through 6, and chroma of 3 through 8. Texture is fine sandy loam or sandy clay loam. Thickness ranges from 4 to 8 inches.

The B22t and B23t horizons have hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 4 through 8. Texture is sandy clay loam or sandy clay. The weighted clay content of the upper 20 inches of the argillic horizon is less than 35 percent. These horizons are mottled with red and brown.

The B3 horizon has color similar to that of the B2t horizon or is a mixture of brown, yellow, red, and gray. Texture is sandy clay loam or sandy loam.

Lacoochee series

The Lacoochee series is a member of the siliceous, hyperthermic, shallow family of Spodic Psammaquents. It consists of nearly level, poorly drained soils that formed in marine sandy and loamy sediments over limestone. These soils are in low, broad areas of tidal marshes. The water table fluctuates with the tide, and the soil is frequently flooded during normal high tides. Slope is less than 2 percent.

Lacoochee soils are geographically closely associated with Aripeka, Homosassa, Wabasso, and Weekiwachee soils. None of these soils has an Aca horizon. In addition, Aripeka soils have an argillic horizon within a depth of 20 inches. Homosassa soils differ by having a thick, dark colored A horizon. Wabasso soils differ by having a Bh horizon underlain by an argillic horizon. Weekiwachee soils have sapric material 16 to 40 inches thick. Lacoochee soils are generally on small knolls that are slightly higher than the surrounding Homosassa or Weekiwachee soils.

Typical profile of Lacoochee fine sandy loam approximately 0.7 mile west of Florida Highway 595, NW1/4SW1/4 sec. 25, T. 23 S., R. 16 E.:

A11ca—0 to 4 inches; light gray (10YR 7/1) fine sandy loam; weak medium subangular blocky structure; friable; few fine roots; few small shells and fragments of limestone; 57 percent calcium carbonate; moderately alkaline; calcareous; clear wavy boundary.

A12ca—4 to 6 inches; light gray (10YR 7/1) fine sandy loam; few fine faint brownish yellow mottles; weak medium subangular blocky structure; friable; few small shells and fragments of limestone; 47 percent calcium carbonate; moderately alkaline; calcareous; clear smooth boundary.

A2g—6 to 8 inches; grayish brown (2.5Y 5/2) loamy fine sand; few fine faint streaks of light gray and brownish yellow mottles; weak medium subangular blocky structure; friable; few fine roots; 13 percent calcium carbonate; moderately alkaline; calcareous; clear wavy boundary.

B2—8 to 15 inches; yellowish brown (10YR 6/6) loamy fine sand; few fine faint light brownish gray (10YR 6/2), dark brown (10YR 3/3), and yellowish brown (10YR 5/6) mottles; weak medium granular structure; very friable; few fine roots; about 7 percent calcium carbonate; mildly alkaline; calcareous; abrupt irregular boundary.

IICr—15 to 26 inches; white (10YR 8/1) soft limestone; massive; firm; about 35 percent hard limestone fragments; most roots do not penetrate this layer but are turned at the upper boundary; moderately alkaline; calcareous; abrupt irregular boundary.

IIIR—26 inches; hard white limestone that can be chipped but not dug with a spade.

Few to common shells are in most profiles. Sulfur content is less than 0.75 percent throughout the profile. Depth to the IIIR horizon ranges from 20 to 40 inches.

The A1ca horizon has hue of N or 10YR, value of 4 through 7, and chroma of 1 or less. Thickness of the A1ca horizon is less than 10 inches. The texture is fine sandy loam or loamy fine sand, but where texture is fine sandy loam, depth to the IICr horizon is greater than 14 inches. Calcium carbonate content is more than 15 percent in the A1ca horizon and commonly more than 45 percent.

The A2g horizon has hue of 2.5Y or 10YR, value of 5 or 6, and chroma of 2. Texture is loamy fine sand or fine sand. Reaction ranges from neutral to moderately alkaline. The A2g horizon is 2 to 4 inches thick.

The B2 horizon has hue of 2.5Y or 10YR, value of 5 or 6, and chroma of 4 through 8. Texture is fine sand or loamy fine sand. Few to many gray mottles are in the B2 horizon. Reaction ranges from neutral to moderately alkaline. Thickness ranges from 5 to 15 inches.

The IICr horizon has hue of 10YR, value of 7 or 8, and chroma of 1 or 2. Hard limestone fragments occur randomly throughout the horizon and range from about 20 to 35 percent, by volume, of the horizon. Solution holes in this layer range from none to about three in each pedon; where present, they are filled with loamy fine sand and hard limestone fragments.

Lake series

The Lake series is a member of the coated, hyperthermic family of Typic Quartzipsamments. It consists of nearly level to gently sloping, excessively drained soils in large to small areas in the uplands.

Lake soils are geographically closely associated with Arredondo, Candler, Kendrick, and Sparr soils. Lake soils are sandy to a depth of more than 80 inches, whereas Arredondo soils have a Bt horizon below a depth of 40 inches. Content of silt plus clay in the 10- to 40-inch control section is 5 to 10 percent in Lake soils, whereas content of silt plus clay in Candler soils is less than 5 percent. Candler soils have discontinuous lamellae. Lake soils do not have the Bt horizon between depths of 20 to 40 inches that Kendrick soils have. Lake soils are better drained than Sparr soils, which are at slightly lower elevations and have a Bt horizon.

Typical profile of Lake fine sand, 0 to 5 percent slopes, in a wooded area 1/2 mile north of Florida Highway 476, NW1/4NE1/4 sec. 22. T. 21 S., R. 20 E.:

O1—1 inch to 0; discontinuous root mat, pine needles, partially decomposed organic material, leaves, stems.
A11—0 to 4 inches; dark brown (10YR 3/3) fine sand; weak medium granular structure; very friable; many fine and medium roots; thinly coated sand grains; medium acid; clear smooth boundary.
A12—4 to 8 inches; dark brown (10YR 4/3) fine sand; single grained; loose; many fine and medium roots; sand grains are thinly coated; slightly acid; clear wavy boundary.
C1—8 to 34 inches; yellowish brown (10YR 5/6) fine sand; single grained; loose; many fine roots; sand grains are well coated; slightly acid; gradual wavy boundary.
C2—34 to 43 inches; strong brown (7.5YR 5/6) fine sand; single grained; loose; many fine roots; sand grains are well coated; medium acid; gradual wavy boundary.
C3—43 to 82 inches; reddish yellow (7.5YR 6/8) fine sand; single grained; loose; few fine roots; sand grains are well coated; medium acid.

Sand thickness exceeds 80 inches or more. Reaction is very strongly acid to slightly acid in all horizons. Content of silt plus clay ranges from 5 to 10 percent in the 10- to 40-inch control section.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 2 or 3. Thickness ranges from 3 to 8 inches.

The C horizon has hue of 5YR, 7.5YR, or 10YR; value of 4 through 6, and chroma of 4 through 8. Texture is fine sand or sand.

Lauderhill series

The Lauderhill series is a member of the euic, hyperthermic family of Lithic Medisaprists. It consists of very poorly drained, organic soils that overlie hard, fractured limestone at a depth of 20 to 40 inches. These soils are saturated for long periods. They are in the Chassahowitzka Swamp.

Lauderhill soils are geographically closely associated with Aripeka, Okeelanta, and Terra Ceia soils. Aripeka soils are on low ridges and, unlike Lauderhill soils, are mineral soils. Okeelanta soils are more than 51 inches thick over limestone, and Terra Ceia soils are muck to a depth of 51 inches or more. Okeelanta and Terra Ceia soils occupy about the same position in the landscape as Lauderhill soils.

Typical profile of Lauderhill muck in a wooded area of Aripeka-Okeelanta-Lauderhill association, 100 feet south of dug pond, 3 miles west of U.S. Highway 19, and 0.8 mile south of the county line, SE1/4SE1/4, sec. 4, T. 21 S., R. 17 E.:

Oa1—0 to 9 inches; black (5YR 2/1) rubbed and unrubbed muck; 10 percent fiber unrubbed, 3 percent rubbed; moderate coarse granular structure; very friable; many fine medium and large roots; organic matter content is about 80 percent; sodium pyrophosphate extract dark brown (10YR 4/3); mildly alkaline; clear wavy boundary.
Oa2—9 to 27 inches; dark brown (7.5YR 3/2) unrubbed, dark reddish brown (5YR 2/2) rubbed muck; 6 percent fiber unrubbed, 3 percent rubbed; moderate medium subangular blocky structure; very friable; many fine and medium and few large roots; organic matter content is about 65 percent decreasing with depth; pyrophosphate extract dark brown (10YR 4/3); mildly alkaline; abrupt wavy boundary.
IIR—27 inches; white (10YR 8/1) hard limestone with a thin layer of marl on top and in fractures.

Thickness of the organic material ranges from 16 to 40 inches. Soil reaction ranges from slightly acid to mildly alkaline in all horizons or more than pH 4.5 in 0.01 *M* calcium chloride.

The Oa horizon has hue of 5YR, 7.5YR, or 10YR; value of 2 or 3; and chroma of 1 or 2.

A IIC horizon of fine sand, loamy fine sand, or sandy loam is between the Oa and the IIIR horizons in many profiles. Where this horizon is present, it is generally mixed dark gray (10YR 4/1) and black (10YR 2/1), or has hue of 10YR, value of 2 through 5, and chroma of 1 or 2. Thickness is usually less than 6 inches.

The IIR horizon is hard fractured limestone that has soft limestone in fractures and along the top of the hard limestone. Fractures are common, occurring at intervals of about 1 to 4 feet, and are about 1 to 4 inches wide.

Masaryk series

The Masaryk series is a member of the coarse-loamy, siliceous, hyperthermic family of Typic Paleudults. It consists of nearly level to gently sloping, moderately well drained soils that formed in sandy and loamy marine deposits. These soils are on broad ridges near Masaryktown. In most years, under natural conditions the water table is perched at a depth of 40 to 60 inches for 1 to 2 months and at a depth of 60 to 72 inches for 2 to 4 months.

Masaryk soils are geographically closely associated with Arredondo, Candler, Kendrick, Sparr, and Tavares soils. Candler and Tavares soils do not have a B2t horizon. In addition, Candler soils have thin lamellae, normally below a depth of 60 inches, and do not have a water table within a depth of 80 inches. Arredondo and Kendrick soils are well drained and occupy slightly higher positions in the landscape than Masaryk soils. In addition, Kendrick soils also have a Bt horizon between depths of 20 and 40 inches. Sparr soils are somewhat poorly drained and have an argillic horizon between depths of 40 and 80 inches.

Typical profile of Masaryk very fine sand, 0 to 5 percent slopes, in a wooded area approximately 1 1/4 miles west of U.S. Highway 41 and 1 mile north of Powell Road, SE1/4SW1/4 sec. 1, T. 23 S., R. 18 E.:

A1—0 to 3 inches; dark gray (10YR 4/1) very fine sand; weak fine granular structure; very friable; many fine and medium roots; very strongly acid; gradual smooth boundary.
A21—3 to 13 inches; pale brown (10YR 6/3) very fine sand; single grained; loose; common medium and few large roots; few charcoal fragments; strongly acid; gradual smooth boundary.
A22—13 to 24 inches; very pale brown (10YR 7/4) very fine sand; single grained; loose; common medium and few large roots; few charcoal fragments; strongly acid; gradual smooth boundary.
A23—24 to 42 inches; white (10YR 8/2) very fine sand; single grained; loose; common medium and few large roots; common uncoated sand grains; strongly acid; diffuse wavy boundary.
A24—42 to 63 inches; white (10YR 8/2) very fine sand; few fine faint brownish yellow mottles; single grained; loose; few fine roots; many uncoated sand grains; medium acid; diffuse wavy boundary.
A25—63 to 70 inches; white (10YR 8/2) very fine sand; common medium distinct yellowish brown (10YR 5/6, 5/8) and brownish yellow (10YR 6/6) mottles; single grained; loose; few fine roots; many uncoated sand grains; medium acid; clear smooth boundary.
B21t—70 to 74 inches; mixed light brownish gray (10YR 6/2) and yellowish brown (10YR 5/6) very fine sandy loam; common medium distinct yellowish red (5YR 4/6) mottles; weak medium subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; very strongly acid; clear wavy boundary.

B22t—74 to 90 inches; grayish brown (10YR 5/2) very fine sandy loam; common medium distinct brownish yellow (10YR 6/6), yellowish brown (7.5YR 5/6), and yellowish red (5YR 4/6) mottles; weak medium subangular blocky structure; friable, redder areas are slightly brittle; few fine roots; sand grains are coated and bridged with clay; very strongly acid.

Reaction ranges from very strongly acid to medium acid in the A horizon and is very strongly acid in the Bt horizon. Depth to mottles indicates wetness is more than 40 inches.

The A1 or Ap horizon has hue of 10YR, value of 3 through 5, and chroma of 1 through 3. Thickness is 3 to 8 inches.

The A21 and A22 horizons have hue of 10YR, value of 6 through 7, and chroma of 2 through 8. Some profiles have white or light gray pockets of uncoated sand. Thickness ranges from 6 to 25 inches.

The A23 horizon has hue of 10YR, value of 7 or 8, and chroma of 1 or 2. Thickness ranges from 10 to 25 inches.

The A24 and A25 horizons have hue of 10YR, value of 7 to 8, and chroma of 1 or 2. They have few to common, faint to distinct, yellowish and reddish segregated iron mottles. The total thickness of the A horizon ranges from 40 to 80 inches, but is commonly 50 to 70 inches.

The B21t horizon has hue of 10YR, value of 5 through 7, and chroma of 2 through 8, with or without gray, brown, or reddish mottles. In some places these colors are mixed with grayish brown and light brownish gray. Texture is very fine sandy loam or sandy clay loam. Thickness ranges from 0 to 8 inches.

The B22t horizon has hue of 10YR, value of 5 through 7, and chroma of 1 or 2. It has brownish, yellowish, or red mottles. In some places it has hue of 10YR, value of 5 or 6, and chroma of 4 through 8 with grayish and reddish mottles. Texture is very fine sandy loam or sandy clay loam. Overall consistence of the B2t horizon is friable, but ranges to firm in the yellowish and reddish material. Plinthite content is less than 5 percent; where present, plinthite is below a depth of 60 inches.

Micanopy series

The Micanopy series is a member of the fine, mixed, hyperthermic family of Aquic Paleudalfs. It consists of nearly level to gently sloping, somewhat poorly drained soils that formed in thick beds of loamy and clayey marine sediments. These soils are in small open areas. In most years, under natural conditions, the water table is at a depth of 20 to 30 inches for periods of 1 to 3 months. Slopes are smooth to concave, ranging from 0 to 5 percent.

Micanopy soils are geographically closely associated with Blichton, Flemington, Kendrick, and Nobleton soils. Blichton, Kendrick, and Nobleton soils have an A horizon 20 to 40 inches thick. In addition, Blichton soils are poorly drained, and Kendrick soils are well drained. Flemington soils are poorly drained and have montmorillonitic mineralogy. Blichton, Nobleton, and Flemington soils are in low areas of the landscape, while Kendrick soils are in higher areas.

Typical profile of Micanopy loamy fine sand, 2 to 5 percent slopes, in a wooded area at E-Howkee Boys Camp, 3/4 mile south of Ayers road and 1/2 mile west of Florida Highway 581, SW1/4SW1/4 sec. 35, T. 23 S., R. 19 E.:

A11—0 to 4 inches; black (10YR 2/1) loamy fine sand; moderate medium granular structure; very friable; many fine and medium roots; medium acid; clear smooth boundary.

A12—4 to 8 inches; very dark gray (10YR 3/1) loamy fine sand; moderate medium granular stucture; very friable, many fine and medium roots; medium acid; clear smooth boundary.

A2—8 to 15 inches; brown (10YR 4/3) loamy fine sand; moderate medium granular structure; very friable; many fine and medium roots; medium acid; clear wavy boundary.

B1t—15 to 18 inches; yellowish brown (10YR 5/4) fine sandy loam; common medium distinct strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; friable; many fine and medium roots; sand grains coated and bridged with clay; medium acid; clear wavy boundary.

B21t—18 to 25 inches; yellowish brown (10YR 5/4) sandy clay; common medium distinct strong brown (7.5YR 5/6) and grayish brown (10YR 5/2) mottles and few fine faint light brownish gray (10YR 6/2) mottles; weak medium subangular blocky structure; firm; common roots; faint discontinuous clay films on faces of peds; very strongly acid; gradual smooth boundary.

B22tg—25 to 40 inches; gray (10YR 5/1) sandy clay; few medium distinct yellowish brown (10YR 5/6) and many coarse prominent dusky red (10YR 3/4) mottles; moderate medium subangular blocky structure; firm; common roots; clay films on ped faces; very strongly acid; gradual wavy boundary.

B23tg—40 to 55 inches; gray (10YR 5/1) sandy clay; few fine faint yellowish brown (10YR 5/6) and many coarse prominent dusky red (10YR 3/43) mottles; many medium distinct pale brown sandy films on ped faces; moderate medium subangular blocky structure; firm; few roots; few clay films; very strongly acid; gradual wavy boundary.

B3g—55 to 62 inches; mixed gray (10YR 6/2), very pale brown (10YR 7/3), yellowish brown (10YR 5/6), strong brown (7.5YR 5/6), and yellowish red (5YR 4/8) sandy clay; weak medium subangular blocky structure; friable; few uncoated sand grains; few clay films; very strongly acid.

The Ap or A1 horizon has hue of 10YR or N, value of 2 through 4, and chroma of 2 or less. It ranges from 4 to 8 inches in thickness. The A2 horizon has hue of 10YR, value of 4 to 6, and chroma of 3 or 4, with or without mottles of gray, brown, or yellow. Total thickness of the A horizon is less than 20 inches. Reaction ranges from medium acid to very strongly acid.

The B1t horizon has hue of 10YR, value of 5 or 7, and chroma of 3 through 6. Texture is fine sandy loam or sandy clay loam, and thickness ranges from 2 to 4 inches.

The B21t horizon has hue of 10YR, value of 5 or 6, and chroma of 3 through 6, with or without mottles of gray, brown, or red. Texture is sandy clay or sandy clay loam, and thickness ranges from 4 to 8 inches. Reaction ranges from medium acid to very strongly acid.

The B22tg horizon has hue of N or 10YR, value of 5 or 6, and chroma of 2 or less. It has mottles of gray, yellow, brown, or red. Texture is sandy clay or clay, and reaction is strongly acid or very strongly acid. Clay content in the upper 20 inches of the B2 horizon ranges from 35 to 45 percent.

The B3g horizon has hue of N, 10YR, or 5Y; value of 5 through 7; and chroma of 2 or less. Texture is dominantly sandy clay or clay but ranges to heavy sandy clay loam. In some places, there are few to common fragments of limestone 3 to 15 mm in size.

Myakka series

The Myakka series is a member of the sandy, siliceous, hyperthermic family of Aeric Haplaquods. It consists of nearly level, poorly drained, deep, sandy soils in broad flatwood areas of the county. Slope is less than 2 percent. The water table is at a depth of less than 10 inches for 1 to 4 months in most years and recedes to a depth of more than 40 inches during very dry seasons.

Myakka soils are geographically closely associated with Adamsville, Basinger, EauGallie, Pompano, and Wabasso soils. Adamsville soils are on slightly higher ridges in the landscape. They differ from Myakka soils in that they are somewhat poorly drained and do not have a Bh horizon. Basinger and Pompano soils are in about the same kind of landscape but do not have the spodic horizon of Myakka soils. EauGallie and Wabasso soils differ from Myakka

soils in that they have an argillic horizon beneath the spodic horizon.

Typical profile of Myakka fine sand in a cutover wooded area approximately 3/4 mile south of Florida Highway 572 on Hancock Lake Road and 75 yards east of Hancock Lake Road, NE1/4SW1/4 sec. 31 T. 23 S., R. 20 E.:

A1—0 to 5 inches; black (N 2/0) rubbed fine sand; many white sand grains; weak fine granular structure; very friable; many fine and medium roots; very strongly acid; clear smooth boundary.

A2—5 to 25 inches; light gray (10YR 7/1) fine sand; single grained; loose; many fine and medium roots; very strongly acid; clear smooth boundary.

B21h—25 to 29 inches; very dark grayish brown (10YR 3/2) fine sand; single grained; loose; common fine roots; sand grains are well coated with organic matter; common uncoated sand grains; very strongly acid; clear wavy boundary.

B22h—29 to 34 inches; very dark gray (5YR 3/1) fine sand; weak fine granular structure; very friable; weakly cemented in places; common fine roots; sand grains are well coated with organic matter; common uncoated sand grains; very strongly acid; clear wavy boundary.

B23h—34 to 42 inches; dark reddish brown (5YR 3/2) fine sand; weak fine granular structure; very friable; common fine roots; sand grains are well coated with organic matter; very strongly acid; clear wavy boundary.

C1—42 to 50 inches; light brownish gray (10YR 6/2) fine sand; common medium faint mottles of dark yellowish brown along root channels; single grained; loose; few fine roots; very strongly acid; gradual smooth boundary.

C2—50 to 80 inches; light gray (10YR 7/2) fine sand; single grained; loose; strongly acid.

Reaction ranges from very strongly acid to slightly acid throughout. The texture is fine sand or sand except for the A1 horizon, which is fine sand.

The A1 horizon has hue of 10YR, value of 2 through 4, and chroma of 1 or 2. Uncrushed colors are a mixture of white sand grains and black organic material and have a salt and pepper appearance. Thickness ranges from 4 to 8 inches. The A2 horizon has hue of 10YR, value of 5 through 7, and chroma of 1 or 2. In some profiles there are gray, brown, and yellow mottles. Combined thickness of the A1 and A2 horizon ranges from 20 to 30 inches.

The B2h horizon has color and hue of 5YR, value of 2 or 3, and chroma of 4 or less, or it has hue of 7.5YR or 10YR, chroma of 3 or less, and value of 2 or less. Where a B3 horizon is present, color is in hue of 7.5YR or 10YR, value of 3 through 5, and chroma of 2 through 4.

The C horizon has hue of 10YR, value of 4 through 7, and chroma of 1 through 4.

Nobleton series

The Nobleton series is a member of the clayey, mixed, hyperthermic family of Aquic Arenic Paleudults. It consists of nearly level to gently sloping, deep, somewhat poorly drained soils that formed in thick deposits of sandy and loamy sediments of marine origins. The water table is perched at a depth of 20 to 40 inches for cumulative periods of 1 to 4 months during the summer rainy season in most years. Slopes range from 0 to 5 percent.

Nobleton soils are geographically closely associated with Blichton, Flemington, Kendrick, and Micanopy soils. Blichton soils are poorly drained and occupy a lower elevation in the landscape. Flemington soils are poorly drained and have an A horizon less than 20 inches thick. Kendrick soils are well drained and occupy higher positions in the landscape. Micanopy soils have high base saturation and an A horizon less than 20 inches thick.

Typical profile of Nobleton fine sand, 0 to 5 percent slopes, in a wooded area, approximately 0.6 mile north of Government Road and 100 feet west of U.S. Highway 41 on Plant Materials Center, SE1/4NW1/4 sec. 30, T. 21 S., R. 20 E.:

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) fine sand; weak fine granular structure; very friable; common fine roots; medium acid; clear smooth boundary.

A21—7 to 22 inches; brown (10YR 5/3) fine sand; single grained; loose; few fine roots; few charcoal fragments; medium acid; clear wavy boundary.

A22—22 to 33 inches; very pale brown (10YR 7/4) fine sand; common medium distinct strong brown (7.5YR 5/6) and common medium faint pale brown (10YR 6/3) mottles; single grained; loose; few fine roots; medium acid; clear wavy boundary.

B21t—33 to 37 inches; reddish yellow (7.5YR 6/6) sandy clay loam; common medium distinct grayish brown (10YR 5/2) and yellowish red (5YR 5/6) mottles; weak medium subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; very strongly acid; gradual wavy boundary.

B22t—37 to 60 inches; mottled yellowish red (5YR 4/6), strong brown (7.5YR 5/6), brown (10YR 5/3), and gray (10YR 6/1) sandy clay; moderate medium subangular blocky structure; firm; few fine roots; common discontinuous clay films on surfaces of peds; about 4 percent plinthite; few ironstone nodules; very strongly acid; gradual smooth boundary.

B23tg—60 to 80 inches; light gray (10YR 7/2) sandy clay loam; many medium prominent strong brown (7.5YR 5/6) and yellowish red (5YR 4/6) mottles and common medium distinct yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; firm; very few fine roots; very strongly acid; clear wavy boundary.

B3g—80 to 85 inches; grayish brown (10YR 5/2) sandy clay loam; common medium distinct strong brown (7.5YR 5/6), yellowish red (5YR 4/6), red (2.5YR 4/6), and yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; common pockets of loamy sand; extremely acid.

Reaction ranges from very strongly acid to medium acid in the A horizon and from strongly acid to extremely acid in the Bt horizon.

The A1 or Ap horizon has hue of 10YR, value of 3 to 5, and chroma of 1 or 2. Thickness is 4 to 8 inches. The A2 horizon has hue of 10YR, value of 5 to 7, and chroma of 3 or 4, with or without mottles. Total thickness of the A horizon is 20 to 40 inches.

The B21t horizon has hue of 10YR, value of 5 to 7, and chroma of 3 to 8, or it has hue of 7.5Y, value of 5 or 6, and chroma of 6 or 8. Few to common mottles with chroma of 2 or less are within this horizon. Texture of the B21t horizon is sandy clay loam or sandy clay. The B22t horizon is mottled in hue of 10YR with value of 5 or 6 and chroma 3 to 8 or with value 5 to 7 and chroma of 2 or less; hue of 7.5YR, value of 5 or 6, and chroma of 7 or 8; or hue of 5YR, value of 4 to 6, and chroma of 6 or 8. In places the matrix of the B22t horizon has hue of 10YR, value of 5 or 6, and chroma of 3 to 8 and has few to many distinct mottles in the hues, values, and chromas listed above. The B23tg and B3g horizons have hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 2 or less and have few to many mottles in the hues, values, and chromas described for the B22t horizon. Texture of the B23tg and B3g horizons is sandy clay or sandy clay loam, and the B3g horizon has pockets and lenses of sandy loam or loamy sand.

Okeelanta series

The Okeelanta series is a member of the sandy or sandy-skeletal, siliceous, euic, hyperthermic family of Terric Medisaprists. It consists of very poorly drained organic soils that have sandy mineral materials within 40 inches of the surface. These soils are in broad swampy

areas in the lowlands. The water table is above or near the surface except during extended dry periods. Slope is dominantly less than 1 percent.

Okeelanta soils are geographically closely associated with Anclote, Basinger, Myakka, Pompano, and Terra Ceia soils. Anclote, Basinger, Myakka, and Pompano soils are sandy soils and generally occupy slightly higher positions in the landscape. Terra Ceia soils differ from Okeelanta soils by having organic layers greater than 51 inches thick.

Typical profile of Okeelanta muck from a wooded area of the Okeelanta-Terra Ceia association, approximately 3/4 mile southeast of intersection of Florida Highways 50 and 595 and about 20 yards south of Florida Highway 50, NW1/4NE1/4 sec. 28, T. 22 S., R. 17 E.:

Oa1—0 to 10 inches; black (10YR 2/1), unrubbed and rubbed, muck; about 20 percent fibers, less than 5 percent rubbed; weak coarse granular structure; many roots; sodium pyrophosphate extract is brown (10YR 3/3); mildly alkaline; gradual smooth boundary.

Oa2—10 to 27 inches; very dark gray (10YR 3/1), unrubbed and rubbed, muck; about 15 percent fibers, less than 5 percent rubbed; massive; slightly sticky; many fine and medium roots; sodium pyrophosphate extract is dark brown (10YR 4/3); mildly alkaline; clear smooth boundary.

IIC—27 to 60 inches; light gray (10YR 7/2) sand; common medium distinct dark gray (10YR 4/1) and very dark gray (10YR 3/1) mottles; single grained; loose; few fine roots; mildly alkaline.

Organic materials are 16 to 40 inches thick and are underlain by sandy mineral materials. The reaction ranges from neutral to mildly alkaline throughout the soil by the Truog field test kit, or the pH is more than 4.5 in 0.01 *M* calcium chloride.

The Oa layer has hue of 10YR, N, or 5YR; value of 2 or 3; and chroma of 2 or less. The unrubbed fiber content is less than 20 percent, and the rubbed fiber content is less than 5 percent. A dark reddish brown hemic layer, 2 to 7 inches thick, is common at the surface of many profiles.

The IIC horizon has hue of 10YR, value of 2 to 7, and chroma of 1 or 2. Texture is fine sand or loamy fine sand.

Paisley series

The Paisley series is a member of the fine, montmorillonitic, hyperthermic family of Typic Albaqualfs. It consists of nearly level, poorly drained soils that formed in clayey marine sediments influenced by underlying calcareous materials. These soils are on low ridges in the flatwoods. The water table is at a depth of 10 inches or less for 2 to 6 months during most years and above the surface for less than 1 month in most years.

Paisley soils are geographically closely associated with Delray, Floridana, and Wabasso soils. Paisley soils are poorly drained and have an argillic horizon within a depth of 20 inches, whereas Delray and Floridana soils have a mollic epipedon and a sandy A horizon that is more than 20 inches thick. Paisley soils do not have the spodic horizon of Wabasso soils. Delray and Floridana soils are in depressional areas of the landscape. Wabasso soils are also on low ridges, but at slightly lower elevations than the Paisley soils.

Typical profile of Paisley fine sand from a wooded area 20 feet west of Clay Sink Road, 0.1 mile south of junction with Florida Highway 50, NE1/4NE1/4 sec. 8, T. 23 S., R. 22 E.:

A1—0 to 7 inches; very dark gray (10YR 3/1) fine sand; weak medium granular structure; very friable; many fine and medium roots; common uncoated sand grains; very strongly acid; clear wavy boundary.

A2—7 to 13 inches; grayish brown (10YR 5/2) fine sand; weak medium granular structure; very friable; many fine and medium roots; 10 percent of horizon is limestone cobbles and boulders 6 to 15 inches in diameter; medium acid; abrupt wavy boundary.

B21tg—13 to 17 inches; dark grayish brown (10YR 4/2) sandy clay loam; few medium distinct strong brown (7.5YR 5/6) and common medium prominent red (10YR 4/6) mottles; weak medium subangular blocky structure; firm; many fine and medium roots; few limestone cobbles and boulders; few thin distinct clay films on ped faces; medium acid; clear wavy boundary.

B22tg—17 to 39 inches; gray (10YR 6/1) sandy clay; common medium distinct yellowish brown (10YR 5/6) mottles and streaks of dark gray (10YR 4/1) along old root channels; weak medium subangular blocky structure; firm; common fine roots; thin distinct clay films on ped faces; few slickensides; few limestone cobbles and boulders; neutral; clear wavy boundary.

B23tg—39 to 68 inches; light gray (10YR 7/1) sandy clay loam; many large distinct gray (10YR 6/1) mottles; weak medium subangular blocky structure; very firm; few fine roots; thin distinct clay films on ped faces; few slickensides; few limestone cobbles and boulders; many white (10YR 8/1) and yellowish brown (10YR 5/6) carbonatic pebbles; moderately alkaline; clear wavy boundary.

Cg—68 to 95 inches; mixed light gray (10YR 7/1) and gray (10YR 6/1) clay; common medium distinct yellowish brown (10YR 5/6) mottles; massive; friable; common white (10YR 8/1) carbonatic pebbles; common pockets of sandy loam and sandy clay loam; moderately alkaline.

Solum thickness is 40 to 72 inches or more. Limestone cobbles and boulders range from none to few throughout the soil.

The A1 horizon has hue of 10YR, value of 5 or 6, and chroma of 1 or 2. Thickness ranges from 3 to 8 inches. The A2 horizon has hue of 10YR, value of 5 or 6, and chroma of 1 or 2. Total thickness of the A horizon is less than 20 inches, and soil reaction ranges from very strongly acid to medium acid.

The Btg horizon has hue of N, 5Y, or 10YR; value of 4 to 6; and chroma of 2 or less, with or without mottles of gray, brown, yellow, and red. The reaction of the Btg horizon ranges from medium acid to moderately alkaline in the upper part and from neutral to moderately alkaline in the lower part. Total thickness of the Btg horizon ranges from 20 to 55 inches. Texture is dominantly sandy clay or clay, but ranges to heavy sandy clay loam. Bodies of soft, white carbonitic material or calcareous concretions range from none to common in the lower part of the Btg horizon.

The Cg horizon has hue of N, 5Y, or 10YR; value of 5 through 7; and chroma of 1 or less and has mottles of brown and yellow. Texture is sandy clay or clay, with or without pockets of coarser material. This horizon has common to many medium and large pockets of soft, white carbonitic material.

Paola series

The Paola series is a member of the uncoated, hyperthermic family of Spodic Quartzipsamments. It consists of nearly level to sloping, excessively drained, sandy soils that formed in thick beds of marine or eolian sands. These soils are on higher ridges and hillsides in the sandhill areas of the county. The water table is below a depth of 72 inches.

Paola soils are geographically closely associated with Astatula, Candler, and Tavares soils. Astatula and Candler soils are in about the same position on the landscape

as Paola soils, but do not have an A2 horizon or a B&A horizon. In addition, Candler soils have lamellae in the lower part of the profile. Tavares soils are on lower elevations in the landscape and have mottles indicative of wetness between depths of 40 and 60 inches.

Typical profile of Paola fine sand, 0 to 8 percent slopes, in a wooded area, approximately 3/4 mile south of intersection of Florida Highway 50 and U.S. Highway 19, 1/4 mile east of paved road, and 50 feet west of road, NE1/4SW1/4 sec. 2, T. 23 S., R. 17 E.:

A1—0 to 3 inches; gray (10YR 5/1) fine sand; single grained; loose; many medium and large roots; many uncoated sand grains; very strongly acid; clear smooth boundary.

A2—3 to 26 inches; white (10YR 8/1) fine sand; single grained; loose; few fine faint dark gray stains along root channels; many medium and large roots; many uncoated sand grains; strongly acid; clear irregular boundary.

B&A—26 to 64 inches; brownish yellow (10YR 6/6) fine sand; single grained; loose; few tongues filled with light colored fine sand from the A horizon above are throughout the horizon; outer edges of the tongues are stained with yellowish red (5YR 5/6), dark brown (7.5YR 4/4), and strong brown (7.5YR 5/6) organic material that, in places, is weakly cemented; few fine soft spheroidal very dark grayish brown (10YR 3/2) concretions are throughout the horizon; many fine and medium roots; strongly acid; clear irregular boundary.

C1—64 to 80 inches; very pale brown (10YR 7/4) fine sand; few fine faint strong brown and dark brown stains in and around deeper root channels; single grained; loose; few roots; sand grains are slightly coated; medium acid; gradual wavy boundary.

C2—80 to 99 inches; white (10YR 8/1) fine sand; single grained; loose; medium acid.

Reaction ranges from very strongly to medium acid throughout the profile.

The A1 horizon has hue of 10YR, value of 4 through 6, and chroma of 1 or 2. Thickness ranges from 2 to 5 inches.

The A2 horizon has hue of 10YR, value of 7 or 8, and chroma of 1 or 2. This horizon has common mottles of brown or gray. Thickness ranges from 8 to 31 inches.

The B part of the B&A horizon has hue of 7.5YR or 10YR, value of 5 through 7, and chroma of 4 or 6. The A part consists of tongues of material from the A horizon 1 to 4 inches wide and 3 to 18 inches long. Brownish streaks occur on the edges of the tongues and are weakly cemented in places. Texture is sand or fine sand.

The C horizon has hue of 10YR, value of 6 through 8, and chroma of 3 or 4. Below a depth of 80 inches, chroma ranges from 1 to 4. Texture is sand or fine sand.

Pineda series

The Pineda series is a member of the loamy, siliceous, hyperthermic family of Arenic Glossaqualfs. It consists of nearly level, poorly drained soils that formed in sandy and loamy marine sediments. These soils are in low, nearly level areas in the flatwoods. The water table is within a depth of 10 inches for 1 to 6 months in most years.

Pineda soils are geographically closely associated with Delray, Floridana, Paisley, and Wabasso soils. Pineda soils are poorly drained and have a Btg horizon within a depth of 40 inches, whereas Delray soils are very poorly drained and have a mollic epipedon and a Btg horizon between depths of 40 and 80 inches. Pineda soils differ from Floridana soils by not having a mollic epipedon and by having a Bir horizon. Delray and Floridana soils are generally in depressions. Pineda soils are poorly drained and have a Bir and also a Btg horizon between depths of 20 and 40 inches, whereas Paisley soils have a Btg horizon above a depth of 20 inches. Pineda soils differ from Wabasso soils by not having a Bh horizon and by having a Bir horizon.

Typical profile of Pineda fine sand in a wooded area, 2 miles north of county line and 1.5 miles west of Florida Highway 471, NE1/4SE1/4 sec. 11, T. 23 S., R. 22 E.:

A11—0 to 4 inches; black (N 2/0) rubbed, salt and pepper appearance unrubbed, fine sand; weak fine granular structure; very friable; many fine and common medium roots; medium acid; clear smooth boundary.

A12—4 to 14 inches; dark gray (10YR 4/1) fine sand; few fine faint very dark grayish brown mottles; weak fine granular structure; very friable; few fine and medium roots; medium acid; gradual wavy boundary.

A2—14 to 17 inches; pale brown (10YR 6/3) fine sand; few fine faint yellowish brown mottles; single grained; loose; few fine and medium roots; medium acid; gradual wavy boundary.

B21ir—17 to 23 inches; yellowish brown (10YR 5/6) fine sand; common medium prominent strong brown (7.5YR 5/8) mottles; single grained; loose; few fine and medium roots; moderately alkaline; gradual wavy boundary.

B22ir—23 to 31 inches; brownish yellow (10YR 6/6) fine sand; common medium distinct yellowish brown (10YR 5/8) mottles; single grained; loose; few fine and medium roots; pockets of uncoated sand grains; moderately alkaline; gradual wavy boundary.

A'2—31 to 35 inches; very pale brown (10YR 7/3) fine sand; single grained; loose; few fine and medium roots; moderately alkaline; abrupt wavy boundary.

B'21tg&A—35 to 39 inches; greenish gray (5G 6/1) fine sandy loam; weak medium subangular blocky structure; few fine faint olive mottles; friable; few fine and medium roots; few small tongues of white (10YR 8/1) and very pale brown (10YR 7/3) fine sand; moderately alkaline; gradual wavy boundary.

B'22tg—39 to 50 inches; greenish gray (5G 6/1) sandy clay loam; common medium distinct light olive brown (2.5Y 5/4; 5/6) and few fine faint olive yellow mottles; weak medium subangular blocky structure; friable; few fine and medium roots; sand grains are coated and bridged with clay; moderately alkaline; gradual wavy boundary.

B'31g—50 to 62 inches; greenish gray (5GY 6/1) sandy loam; weak medium subangular blocky structure; friable; few fine and medium roots; moderately alkaline; gradual wavy boundary.

B'32g—62 to 80 inches; light greenish gray (5GY 7/1) fine sandy loam; weak medium subangular blocky structure; friable; few fine roots; moderately alkaline.

Reaction is medium acid or slightly acid in the A horizon.

The A11 horizon has hue of N or 10YR, value of 2 or 3, and chroma of 1 or less. The A11 horizon is 3 to 5 inches thick. The A12 horizon has hue of 10YR, value of 3 or 4, and chroma of 1 and has mottles of brown or gray. Thickness is 3 to 15 inches. Black or very dark gray colors do not extend to a depth of more than 9 inches.

The A2 horizon has hue of 10YR, value of 6 or 7, and chroma of 2 or 3. It is generally mottled with brown. Thickness ranges from 3 to 12 inches.

The Bir horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 6 through 8 and has mottles of brown. The Bir horizon is 9 to 16 inches thick. Reaction ranges from slightly acid to mildly alkaline.

Reaction is mildly alkaline or moderately alkaline in the A'2 and A'3g horizons. The A'2 horizon has hue of 10YR, value of 6 or 7, and chroma of 3. Thickness ranges from 3 to 6 inches.

The B'21tg&A horizon has hue of 5G or N, value of 5 or 7, and chroma of 1 or less. Texture is generally fine sandy loam with tongues or pockets of fine sand or loamy fine sand. Thickness is 3 to 5 inches.

The B'22tg horizon has hue of 5GY, 5G, N, or 2.5Y; value of 5 through 7; and chroma of 2 or less. Mottles are brown and yellow. The texture of

this horizon is fine sandy loam or sandy clay loam. Thickness ranges from 10 to 20 inches.

The B'3g horizon has the same color range as the B'tg horizon. Texture is sandy loam or sandy clay loam. Thickness ranges from 10 to 15 inches.

Pomello series

The Pomello series is a member of the sandy, siliceous, hyperthermic family of Arenic Haplohumods. It consists of nearly level to gently sloping, moderately well drained, sandy soils that formed in thick deposits of marine sand. These soils are on low ridges in the flatwoods. In most years, under natural conditions the water table is at a depth of 24 to 40 inches for 1 to 4 months and at a depth of 40 to 60 inches for 8 months.

Pomello soils are geographically closely associated with EauGallie, Electra Variant, Myakka, and Paola soils. EauGallie and Electra Variant soils have an argillic horizon. Myakka soils have an A horizon less than 30 inches thick. Paola soils do not have a Bh horizon and are on slightly higher ridges. EauGallie and Myakka soils are poorly drained and are in lower areas. Electra Variant soils are generally in the uplands.

Typical profile of Pomello fine sand, 0 to 5 percent slopes, in a wooded area 50 feet west of Florida Highway 595 and 100 feet south of Florida Highway 50, NE1/4NE1/4 sec. 29, T. 22 S., R. 17 E.:

A1—0 to 3 inches; dark gray (10YR 4/1) rubbed, salt and pepper appearance unrubbed, fine sand; single grained; loose; many fine and medium roots; medium acid; clear smooth boundary.

A21—3 to 5 inches; light brownish gray (10YR 6/2) fine sand; single grained; loose; many uncoated sand grains; many fine and medium roots; medium acid; gradual wavy boundary.

A22—5 to 31 inches; white (10YR 8/1) fine sand; few fine faint dark grayish brown streaks along old root channels; single grained; loose; common fine and medium roots; medium acid; clear wavy boundary.

B21h—31 to 34 inches; very dark gray (10YR 3/1) fine sand; common medium distinct dark brown (10YR 3/3) mottles; weak fine granular structure; friable; sand grains well coated with organic matter; few fine roots; very strongly acid; gradual wavy boundary.

B22h—34 to 52 inches; dark brown (7.5YR 3/2) fine sand; common medium distinct dark yellowish brown (10YR 4/4) mottles; weak fine granular structure; friable; sand grains are well coated with organic matter; few fine roots; strongly acid; gradual wavy boundary.

B3—52 to 80 inches; yellowish brown (10YR 5/4) fine sand; few fine faint dark brown mottles; single grained; loose; few fine roots; medium acid.

Reaction ranges from very strongly acid to medium acid.

The A1 horizon has hue of 10YR, value of 3 through 5, and chroma of 1 or 2. Unrubbed colors have a salt and pepper appearance. Thickness ranges from 2 to 6 inches.

The A2 horizon has hue of 10YR, value of 6 through 8, and chroma of 1 or 2. In some profiles this horizon is mottled with gray, brown, and black. Combined thickness of the A1 and A2 horizons ranges from 30 to 55 inches.

The Bh horizon has hue of 10YR, 7.5YR, or 5YR; value of 2 or 3; and chroma of 1 through 3. Texture is fine sand or sand. Thickness is 10 to 26 inches.

The B3 horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 2 or 4. Texture is fine sand or sand.

The C horizon, where present, has hue of 10YR, value of 5 through 7, and chroma of 1 or 2. Texture is fine sand or sand.

The organic carbon content in the upper 30 cm of the spodic horizon is too low to place this series in the great group Haplohumods, but this difference does not alter the usefulness and behavior of the soil.

Pompano series

The Pompano series is a member of the siliceous, hyperthermic family of Typic Psammaquents. It consists of nearly level, poorly drained soils on broad low flats and poorly defined drainageways. These soils formed in thick deposits of marine sands. The water table is at a depth of less than 10 inches for cumulative periods of 2 to 6 months during most years. Even in the drier months, it is within a depth of 30 inches.

Pompano soils are geographically closely associated with Adamsville, Anclote, and Basinger soils. Adamsville soils are somewhat poorly drained and are on slightly higher ridges within the landscape. Anclote soils are in depressions and differ from Pompano soils by having a mollic epipedon. Basinger soils differ by having an A2&Bh horizon.

Typical profile of Pompano fine sand in a wooded area, approximately 50 feet north of Florida Highway 50 and 1 1/4 miles east of Florida Highway 575, SW1/4SW1/4 sec. 5, T. 23 S., R. 22 E.:

A1—0 to 7 inches; black (10YR 2/1) rubbed, salt and pepper appearance unrubbed, fine sand; weak fine granular structure; very friable; many fine and medium roots; medium acid; gradual smooth boundary.

C1—7 to 16 inches; light brownish gray (10YR 6/2) fine sand; single grained; loose; many fine and medium roots; common medium distinct dark grayish brown (10YR 4/2) organic stains along root channels; slightly acid; gradual wavy boundary.

C2—16 to 45 inches; light gray (10YR 7/1) fine sand; few fine faint dark brown mottles; single grained; loose; many fine and medium roots; strongly acid; gradual wavy boundary.

C3—45 to 80 inches; light gray (10YR 7/1) fine sand; single grained; loose; strongly acid.

Reaction ranges from very strongly acid to neutral throughout the profile. Texture is fine sand throughout.

The A horizon has hue of 10YR, value of 2 through 5, and chroma of 1 or 2. Thickness is 4 to 7 inches.

The C horizon has hue of 10YR, value of 4 through 8, and chroma of 1 or 2. The C horizon usually is mottled light gray and dark brown.

Samsula series

The Samsula series is a member of the sandy or sandy-skeletal, siliceous, dysic, hyperthermic family of Terric Medisaprists. It consists of nearly level, very poorly drained soils that formed in well decomposed organic matter and in the underlying sandy marine sediments. These soils are in low depressional areas. In most years, under natural conditions the water table is at or near the surface for 6 to 12 months and is usually above the surface for very long periods. Slopes are less than 2 percent.

Samsula soils are geographically closely associated with Blichton, Electra Variant, Nobleton, and Wauchula soils, which are mineral soils and occupy higher positions in the landscape.

Typical profile of Samsula muck in a wooded area approximately 1/4 mile east of Florida Highway 581 and 3/4 mile south of Florida Highway 572, SE1/4NE1/4 sec. 14, T. 23 S., R. 19 E.:

Oa1—0 to 4 inches; very dark brown (10YR 2/2) muck; about 25 percent fiber, about 5 percent rubbed; weak medium granular structure; very friable; few fine partially decomposed roots; sodium pyrophosphate extract is dark yellowish brown (10YR 4/4); extremely acid; gradual wavy boundary.

Oa2—4 to 17 inches; black (10YR 2/1) muck; about 20 percent fiber, less than 5 percent rubbed; weak medium granular structure; very friable; common fine roots; sodium pyrophosphate extract is dark yellowish brown (10YR 4/4), extremely acid; gradual wavy boundary.

Oa3—17 to 25 inches; very dark gray (10YR 3/1) muck; fiber content is about 20 percent, less than 5 percent rubbed; weak medium granular structure; very friable; few fine roots; sodium pyrophosphate extract is dark yellowish brown (10YR 4/4); extremely acid; gradual wavy boundary.

IIAb—25 to 28 inches; very dark gray (10YR 3/1) fine sand; single grained; loose; very strongly acid; gradual wavy boundary.

IICb—28 to 65 inches; grayish brown (10YR 5/2) fine sand; common medium distinct very dark grayish brown (10YR 3/2) mottles; single grained; loose; very strongly acid.

The Oa horizon has hue of N, 7.5YR, or 10YR; value of 2 or 3; and chroma of 3 or less. The unrubbed fiber content is 10 to 33 percent, and the rubbed fiber content is less than 5 percent. The reaction is extremely acid to very strongly acid by the Truog field test or less than 4.5 in 0.01 *M* calcium carbonate. Organic materials are 16 to 40 inches thick.

The IIAb horizon has hue of 10YR, value of 3 or 4, and chroma of 1.

The IICb horizon has hue of 10YR, value of 4 through 6, and chroma of 1 or 2. Texture of the IIAb and IICb horizons is sand or fine sand. Reaction is strongly or very strongly acid in the IIAb and IICb horizons.

Sparr series

The Sparr series is a member of the loamy, siliceous, hyperthermic family of Grossarenic Paleudults. It consists of nearly level to sloping, somewhat poorly drained soils that formed in sandy and loamy sediments of marine origin. These soils are on seasonally wet uplands. In most years, under natural conditions, the water table is at a depth of 20 to 40 inches for 2 to 6 months and is usually perched on the surface of the loamy layers. Slopes are smooth to concave and range from 0 to 8 percent.

Sparr soils are geographically closely associated with Arredondo, Kanapaha, and Nobleton soils. Arredondo soils are in the drier parts of the landscape and differ from Sparr soils in that they are well drained. Kanapaha soils are poorly drained and occupy lower positions in the landscape. Nobleton soils differ from Sparr soils by having loamy material between depths of 20 and 40 inches; they occupy similar positions in the landscape to those of Sparr soils.

Typical profile of Sparr fine sand, 0 to 5 percent slopes, 200 feet south of Florida Highway 476 and 30 feet east of Trail Road, NE1/4SE1/4 sec. 23, T. 21 S., R. 20 E.:

A1—0 to 5 inches; dark gray (10YR 4/1) fine sand; weak medium granular structure; very friable; many fine and medium and few large roots; strongly acid; clear wavy boundary.

A21—5 to 9 inches; brown (10YR 5/3) fine sand; few fine faint dark gray streaks; weak medium granular structure; very friable; many fine, medium and few large roots; few fragments of charcoal; strongly acid; clear wavy boundary.

A22—9 to 30 inches; light yellowish brown (10YR 6/4) fine sand; single grained; loose; common fine and medium and few large roots; many uncoated sand grains; medium acid; clear wavy boundary.

A23—30 to 44 inches; very pale brown (10YR 8/4) fine sand; common distinct faint white mottles; single grained; loose; common fine roots; many uncoated sand grains; medium acid; clear wavy boundary.

A24—44 to 61 inches; very pale brown (10YR 8/3) fine sand; many common faint white and few fine faint yellowish red mottles; single grained; loose; few fine roots; many uncoated sand grains; slightly acid; clear wavy boundary.

B21t—61 to 64 inches; light yellowish brown (10YR 6/4) fine sandy loam; common medium distinct strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; friable; few fine roots; clay bridging between sand grains; strongly acid; clear wavy boundary.

B22t—64 to 80 inches; light brownish gray (10YR 6/2) sandy clay loam; common distinct faint gray mottles, common distinct prominent reddish yellow (5YR 6/6) mottles, and many distinct prominent strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; friable; reddish yellow areas are slightly brittle; very few phosphatic pebbles; very few fine roots; strongly acid.

Reaction ranges from very strongly acid to medium acid throughout except in the A horizon, where it ranges to slightly acid. Content of plinthite ranges from 0 to 5 percent in the Bt horizon.

The Ap or A1 horizon has hue of 10YR, value of 3 through 5, and chroma of 1 or 2. The A1 or Ap horizon is 4 to 8 inches thick.

The A2 horizon has hue of 10YR, value of 5 through 8, and chroma of 2 through 6. Total thickness of the A horizon ranges from 40 to 79 inches.

The B21t horizon has hue of 10YR, value of 5 through 7, and chroma of 3 through 6. It is mottled with brown, yellow, gray, and red. The texture is sandy loam or fine sandy loam. The B21t horizon is 3 to 6 inches thick.

The B22tg horizon has hue of 10YR or N, value of 5 through 7, and chroma of 2 or less. Texture ranges from fine sandy loam to light sandy clay. In some profiles, the B22tg horizon is mottled with gray, yellow, brown, and red. Thickness ranges from 16 to 20 inches. Weighted average clay content of the upper 20 inches of the Bt horizon ranges from 15 to 35 percent.

Tavares series

The Tavares series is a member of the uncoated, hyperthermic family of Typic Quartzipsamments. It consists of nearly level to gently sloping, moderately well drained soils that formed in thick beds of sandy marine or eolian sediments. These soils are on knolls and ridges throughout the county. In most years, under natural conditions, the water table is at a depth of 40 to 60 inches for 6 to 10 months and below a depth of 60 inches during very dry periods.

Tavares soils are geographically closely associated with Adamsville, Astatula, Candler, and Lake soils. Adamsville soils are on low broad flats and are somewhat poorly drained. Astatula soils are excessively drained and have a water table below a depth of 72 inches. Candler and Lake soils are excessively drained and occupy about the same position in the landscape. In addition, Lake soils differ from Tavares soils in that silt plus clay make up from 5 to 10 percent of the 10- to 40-inch control section.

Typical profile of Tavares fine sand, 0 to 5 percent slopes, in a wooded area, 200 yards south of Florida Highway 595 and 0.4 mile west of junction of Florida Highway 595 and U.S. Highway 19, NW1/4NW1/4 sec. 29, T. 23 S., R. 17 E.:

A1—0 to 4 inches; dark grayish brown (10YR 4/2) fine sand; weak fine granular structure; friable; many fine and medium roots; many uncoated sand grains; strongly acid; clear smooth boundary.

C1—4 to 8 inches; brown (10YR 5/3) fine sand; single grained; loose; many fine and medium roots; many uncoated sand grains and grayish brown (10YR 5/2) streaks; strongly acid; gradual wavy boundary.

C2—8 to 21 inches; very pale brown (10YR 7/3) fine sand; few fine faint yellowish brown (10YR 5/6) and common fine faint light gray (10YR 7/2) mottles of uncoated sand grains; common fine and medium roots; few charcoal fragments; strongly acid; gradual wavy boundary.

C3—21 to 42 inches; light yellowish brown (10YR 6/4) fine sand; single grained; loose; common fine and medium roots; many uncoated sand grains; strongly acid; gradual wavy boundary.

C4—42 to 48 inches; very pale brown (10YR 7/3) fine sand; common medium distinct strong brown (7.5YR 5/6) and many fine faint light gray (10YR 7/2) mottles; few fine roots; many uncoated sand grains; strongly acid; gradual wavy boundary.

C5—48 to 80 inches; white (10YR 8/1) fine sand; common medium distinct yellowish red (5YR 4/6) and brownish yellow (10YR 6/6) mottles; single grained; loose; medium acid.

Reaction ranges from very strongly acid to medium acid throughout the soil. Silt plus clay content is less than 5 percent in the 10- to 40-inch control section.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 2 or less. Thickness is 3 to 8 inches.

The C horizon has hue of 10YR, value of 5 through 8, and chroma of 1 through 6. The upper part of the C horizon usually has chroma of 3 through 6, and the lower part usually has chroma of 1 through 3. The lower part of the C horizon is mottled with brown, gray, yellow, or red.

Terra Ceia series

The Terra Ceia series is a member of the euic, hyperthermic family of Typic Medisaprists. It consists of nearly level, very poorly drained organic soils in broad, swampy areas. The water table is at or above the surface except during extended dry periods.

Terra Ceia soils are geographically closely associated with Anclote, Basinger, Myakka, Okeelanta, and Pompano soils. Anclote, Basinger, Myakka, and Pompano soils are sandy and generally occupy slightly higher positions in the landscape. Okeelanta soils differ from Terra Ceia soils by having an organic layer less than 51 inches thick.

Typical profile of Terra Ceia muck from a wooded area of Okeelanta-Terra Ceia association, approximately 0.6 mile southeast of the intersection of Florida Highways 50 and 595, and about 20 yards south of Florida Highway 50, SE1/4NW1/4 sec. 28, T. 22 S., R. 17 E.:

Oa1—0 to 11 inches; black (5YR 2/1), unrubbed and rubbed, muck; about 10 percent fibers, less than 5 percent rubbed; weak coarse granular structure; many fine roots; sodium pyrophosphate extract dark brown (10YR 3/3); mildly alkaline; gradual smooth boundary.

Oa2—11 to 36 inches; black (10YR 2/1) unrubbed muck; about 15 percent fibers, less than 5 percent rubbed; massive, slightly sticky; common fine and medium roots; sodium pyrophosphate extract dark brown (10YR 3/3); mildly alkaline; gradual smooth boundary.

Oa3—36 to 58 inches; dark reddish brown (5YR 2/2), unrubbed and rubbed, muck; about 30 percent fibers, less than 5 percent rubbed; massive; slightly sticky; few fine roots; sodium pyrophosphate extract brown (10YR 4/3); mildly alkaline; gradual smooth boundary.

Oa4—58 to 65 inches; black (5YR 2/1), unrubbed and rubbed, muck; about 10 percent fibers, less than 5 percent rubbed; massive; slightly sticky; few fine roots; estimated 40 percent mineral material; sodium pyrophysphate extract dark brown (10YR 3/3); mildly alkaline.

Organic materials are more than 51 inches thick. Most areas have sand within a depth of 51 to 80 inches. The reaction is neutral to mildly alkaline throughout the soil by the Truog field test kit or more than pH 4.5 in 0.01 *M* calcium carbonate.

The Oa layer has hue of 10YR, N, or 5YR; value of 2 or 3; and chroma of 2 or less. The unrubbed fiber content is usually less than 30 percent, and the rubbed fiber content is less than 5 percent in the organic horizons.

The IIC horizon, where present, is sand of mixed gray, black, and brown.

Wabasso Series

The Wabasso series is a member of the sandy, siliceous, hyperthermic family of Alfic Haploquods. It consists of nearly level, poorly drained, sandy soils that formed in sandy and loamy marine sediments. These soils are in low, broad flatwoods areas. In most years, under natural conditions, the water table is at a depth of 10 to 40 inches for more than 6 months. It is at a depth of less than 10 inches for less than 60 days in wet seasons and is at a depth of more than 40 inches during very dry seasons.

Wabasso soils are geographically closely associated with Basinger, Delray, EauGallie, Floridana, Paisley, and Wauchula soils. Basinger soils are in slightly lower areas and in depressions. They also do not have a spodic or an argillic horizon. Delray and Floridana soils have a mollic epipedon or a spodic horizon, and they are in depressions. Paisley soils are clayey and occupy slightly higher parts of the landscape. Wauchula soils are more acid than Wabasso soils in the argillic horizon. EauGallie soils have an argillic horizon between depths of 40 and 80 inches. Wauchula and EauGallie soils occupy the same position in the landscape as Wabasso soils. West of U.S. Highway 19, Wabasso soils are associated with Aripeka soils. Aripeka soils are on low ridges, do not have a spodic horizon, and are underlain with limestone at a depth of 20 to 40 inches.

Typical profile of Wabasso fine sand, about 30 feet north of trail road intersection, NW1/4NW1/4 sec. 11, T.23 S., R. 22 E.:

A1—0 to 3 inches; black (N 2/0) rubbed fine sand; mixture of organic matter and light gray sand grains has a salt and pepper appearance; weak fine granular structure; very friable; many fine and medium roots; strongly acid; clear wavy boundary.

A21—3 to 10 inches; gray (10YR 5/1) fine sand; single grained; loose; many fine and medium roots; common uncoated sand grains; strongly acid; clear wavy boundary.

A22—10 to 21 inches; gray (10YR 6/1) fine sand; single grained; loose; common fine and medium roots; very strongly acid; abrupt wavy boundary.

B21h—21 to 24 inches; black (5YR 2/1) fine sand; weak fine subangular blocky structure breaking to weak fine granular and single grained; very friable; common fine and medium roots; most sand grains are coated with organic matter; few uncoated sand grains; very strongly acid; gradual wavy boundary.

B22h—24 to 30 inches; 60 percent dark reddish brown (5YR 3/3) and 40 percent dark reddish brown (5YR 3/2) fine sand; common medium distinct black (N 2/0) weakly cemented fragments; weak medium granular structure; very friable; few fine and medium roots; many sand grains are coated with organic matter; medium acid; clear wavy boundary.

B23h—30 to 34 inches; dark brown (7.5YR 3/2) fine sand; few fine faint streaks of very dark grayish brown (10YR 3/2); single grained; loose; few fine and medium roots; medium acid; clear wavy boundary.

A'2—34 to 38 inches; pale brown (10YR 6/3) fine sand; single grained; loose; few fine roots; medium acid; clear wavy boundary.

B'21t—38 to 45 inches; light brownish gray (2.5Y 6/2) sandy loam; few fine faint yellowish brown mottles; weak medium subangular blocky structure; friable; few fine roots; sand grains bridged and coated with clay; medium acid; gradual smooth boundary.

B'22t—45 to 65 inches; grayish brown (2.5Y 5/2) sandy clay loam; common medium distinct strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; slightly sticky; few fine roots; sand grains bridged and coated with clay; medium acid; clear wavy boundary.

B'23t—65 to 80 inches; grayish brown (2.5Y 5/2) sandy loam; many large prominent yellowish brown (10YR 5/6) and common medium distinct strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; very friable; medium acid.

Reaction ranges from neutral to very strongly acid in the A and B2h horizons and from medium acid to mildly alkaline below.

The A1 horizon has hue of 10YR or N, value of 2 or 3, and chroma of 1 or 2. It usually has a salt and pepper appearance where undisturbed. Thickness ranges from 3 to 6 inches. The A2 horizon has hue of 10YR, value of 5 through 7, and chroma of 1 or 2. Total thickness of the A horizon is 9 to 24 inches.

The B2h horizon has hue of 5YR, 7.5YR, and 10YR; value of 2 or 3; and chroma of 3 or less. Total thickness of the horizon is 7 to 18 inches, and texture is sand or fine sand.

The A'2 horizon has hue of 10YR, value of 6 through 8, and chroma of 2 or 3. Texture is fine sand or sand. Thickness is 0 to 14 inches.

The B'2t horizon has hue of 2.5Y or 10YR, value of 4 through 6, and chroma of 2 through 6, with or without mottles of yellow and brown. Texture is fine sandy loam, sandy loam, or sandy clay loam. Some profiles have few to common fine and medium nodules of white (10YR 8/1) carbonatic material in this horizon. Depth to the B'2t horizon ranges from 26 to 40 inches.

Wauchula Series

The Wauchula series is a member of the sandy, siliceous hyperthermic family of Ultic Haplaquods. It consists of nearly level and gently sloping, poorly drained, sandy soils that formed in sandy and loamy marine sediments. These soils are on broad, low flatwoods areas and wet seepage hillsides. In most years, under natural conditions, the water table is at a depth of 10 to 40 inches for more than 6 months. It is at a depth of less than 10 inches for 2 months in wet seasons and is at a depth of more than 40 inches during very dry seasons.

Wauchula soils are geographically closely associated with Blichton, Electra Variant, Myakka, and Wabasso soils. Blichton soils do not have a spodic horizon. Electra Variant soils are somewhat poorly drained and have an argillic horizon below a depth of 40 inches. Myakka soils do not have an argillic horizon. Wabasso soils have high base saturation in the argillic horizon. Electra Variant soils are on higher positions in the landscape than Wauchula soils, and the other associated soils are in about the same positions in the landscape.

Typical profile of Wauchula fine sand, 0 to 5 percent slopes, in a wooded area, 150 feet east of Florida Highway 581 and 0.7 mile south of junction of Florida Highways 572 and 581, NE1/4SE1/4 sec. 14, T. 23 S., R. 19 E.:

A11—0 to 3 inches; black (10YR 2/1) rubbed, salt and pepper appearance unrubbed, fine sand; weak fine granular structure; very friable; many fine and medium roots; very strongly acid; clear wavy boundary.

A12—3 to 8 inches; dark gray (10YR 4/1) fine sand; single grained; loose; many fine and medium roots; very strongly acid; clear wavy boundary.

A2—8 to 24 inches; light brownish gray (10YR 6/2) fine sand; single grained; loose; many fine and medium roots; very strongly acid; clear wavy boundary.

B21h—24 to 28 inches; very dark gray (10YR 3/1) fine sand; weak fine granular structure; very friable; common fine roots; many sand grains coated with organic matter; very strongly acid; clear wavy boundary.

B22h—28 to 31 inches; dark reddish brown (5YR 3/2) fine sand; many large prominent dark yellowish brown (10YR 4/4) mottles; weak fine subangular blocky structure; weakly cemented in places; common fine roots; sand grains are coated with organic matter; very strongly acid; clear wavy boundary.

B3&Bh—31 to 34 inches; brown (7.5YR 4/4) fine sand; common medium distinct dark reddish brown (5YR 3/3) bodies; single grained; loose; few fine roots; very strongly acid; gradual wavy boundary.

A'2—34 to 38 inches; pale brown (10YR 6/3) fine sand; common medium distinct dark brown (10YR 3/3) mottles; single grained; loose; few fine roots; very strongly acid; gradual wavy boundary.

B'21t—38 to 43 inches; gray (10YR 5/1) fine sandy loam; many coarse faint light gray (10YR 7/2) mottles; weak medium subangular blocky structure; few fine roots; sand grains are coated with clay; very strongly acid; gradual wavy boundary.

B'22t—43 to 74 inches; gray (10YR 5/1) sandy clay loam; many medium prominent strong brown (7.5YR 5/6) and common medium prominent reddish brown (5YR 4/3) mottles; weak medium subangular blocky structure; few fine roots; sand grains are coated and bridged with clay; very strongly acid; gradual wavy boundary.

B'23t—74 to 80 inches; light brownish gray (10YR 6/2) sandy clay loam; ped faces are gray (10YR 5/1); common medium distinct strong brown (7.5YR 5/6) and common medium prominent dark red (2.5YR 3/6) mottles; weak medium subangular blocky structure; friable; few fine roots; very strongly acid.

Reaction is strongly acid or very strongly acid throughout. The A1 horizon has hue of 10YR or N, value of 2 through 4, and chroma of 2 or less. This horizon has a salt and pepper appearance where undisturbed. Thickness ranges from 3 to 8 inches.

The A2 horizon has hue of 10YR, value of 5 through 8, and chroma of 2 or less. Some profiles have mottles of yellow, brown, or red. Texture is fine sand or sand. Thickness of the A horizon ranges from 7 to 20 inches.

The B2h horizon has hue of 10YR, 7.5YR, or 5YR; value of 2 or 3; and chroma of 3 or less. Texture is fine sand or sand. Thickness of the B2h horizon ranges from 7 to 12 inches.

The B3 horizon has hue of 10YR or 7.5YR; value of 3 or 4; and chroma of 2 through 4. Texture is fine sand or sand. Some profiles have weakly cemented Bh bodies. Thickness ranges from 3 to 6 inches.

Where present, the A'2 horizon has hue of 10YR, value of 5 through 7, and chroma of 1 through 4. Texture is fine sand or sand. Thickness ranges from 0 to 6 inches.

The B'2t horizon has hue of 10YR, N, or 2.5Y; value of 4 through 6; and chroma of 2 or less. The B'2t horizon is mottled with brown, yellow, and red. Also, some profiles have lenses of sandy material. Clay content ranges from about 15 to 35 percent. Texture is fine sandy loam or sandy clay loam. Depth to the B'2t horizon ranges from about 25 to 40 inches.

In some profiles is a C' horizon of fine sandy loam or mixed sandy loam and loamy sand below a depth of 60 inches. It has the same colors as the B'2t horizon.

Weekiwachee series

The Weekiwachee series is a member of the euic, hyperthermic family of Typic Sulfihemists. It consists of nearly level, very poorly drained, organic soils that formed in moderately thick deposits of hydrophytic plant remains and sandy marine sediments in broad areas of tidal marsh. Slopes are less than 1 percent. These soils are flooded during normal high tides.

Weekiwachee soils are geographically closely associated with Aripeka, Homosassa, and Lacoochee soils. All of the associated soils are mineral soils and occupy slightly higher positions in the landscape than Weekiwachee soils.

Typical profile of Weekiwachee muck, about 1/4 mile east of Pine Island and 1 mile north of Bayport Restaurant, NE1/4SE1/4 sec. 18, T. 22S., R. 17E.:

Oa1—0 to 8 inches; black (N 2/0) broken faced and rubbed, muck; about 6 percent fiber, less than 5 percent rubbed; weak fine granular structure; very friable; many fine and medium roots; sodium pyrophosphate extract color is dark yellowish brown (10YR 4/4); about 46 percent mineral material; 0.98 percent sulfur; 29.7 mmhos/cm conductivity; neutral in water at field moisture (air-dry pH 6.6 in 0.01 *M* calcium chloride); gradual wavy boundary.

Oa2—8 to 14 inches; black (N 2/0), broken faced and rubbed, muck; about 6 percent fiber, less than 5 percent rubbed; weak fine granular structure; very friable; many fine roots; sodium pyrophosphate extract color is dark yellowish brown (10YR 4/4); about 26 percent mineral material; 2.3 percent sulfur; 42.0 mmhos/cm conductivity; neutral in water at field moisture (air dry pH 5.1 in 0.01 *M* calcium chloride); gradual wavy boundary.

Oa3—14 to 19 inches; black (N 2/0) broken faced and rubbed, muck; about 6 percent fiber, less than 5 percent rubbed; weak medium granular structure; friable; common fine roots; sodium pyrophosphate extract color is dark yellowish brown (10YR 4/4); about 33 percent mineral material; 4.41 percent sulfur; 44.2 mmhos/cm conductivity; neutral in water at field moisture (air dry pH 4.5 in 0.01 *M* calcium chloride); gradual wavy boundary.

Oa4—19 to 26 inches; black (10YR 2/1) broken faced and rubbed, muck; about 18 percent fiber, less than 5 percent rubbed; weak medium granular structure; very friable; sodium pyrophosphate extract color is dark yellowish brown (10YR 4/4); about 48 percent mineral material; 2.96 percent sulfur; 41.8 mmhos/cm conductivity; few 2.5 inch chunks of wood; neutral in water at field moisture (air dry pH 4.9 in 0.01 *M* calcium chloride); clear wavy boundary.

Oa5—26 to 32 inches; very dark brown (10YR 2/2) broken faced and rubbed, muck; about 20 percent fiber, less than 5 percent rubbed; weak medium granular structure; very friable; sodium pyrophosphate extract color is dark yellowish brown (10YR 4/4); about 71 percent mineral material; common 2- to 4-inch chunks of wood; 1.40 percent sulfur; 36.4 mmhos/cm conductivity; neutral in water at field moisture (air dry pH 5.0 in 0.01 *M* calcium chloride); gradual wavy boundary.

IIC—32 to 36 inches; very dark gray (10YR 3/1) fine sand; common distinct coarse dark gray (10YR 4/1) mottles; massive; very friable; few fine roots; common uncoated sand grains in dark gray mottles; common dark brown (10YR 4/3) decayed chunks of wood; mildly alkaline; abrupt irregular boundary.

IIICr—36 to 45 inches; white (10YR 8/1) soft limestone; massive; firm, about 35 percent hard limestone fragments; most roots do not penetrate this layer but are turned at the upper boundary; moderately alkaline; calcareous; abrupt irregular boundary.

IVR—45 inches; hard white limestone that can be chipped but not dug with a spade.

Sulfur content ranges from 0.75 to 4.0 percent or more in layers above the IIICr horizon. Conductivity of the saturation extract above the IIICr horizon ranges from about 16 to 45 mmhos/cm. Reaction ranges from neutral to moderately alkaline in water in the Oa and IIC horizons in the natural state; after air drying, pH in 0.01 *M* calcium chloride ranges from 4.5 to 5.5 except in the Oa1 horizon, where it ranges to 7.3.

The Oa horizon has hue of 5YR, 10YR, and N; value of 3 or less; and chroma of 3 or less. Unrubbed fiber content ranges from about 6 to 30 percent and is less than 5 percent rubbed. Mineral content ranges from about 26 percent to 80 percent, but is dominantly less than 65 percent. The organic layers in all tiers are dominantly muck, but there are wood chunks in some profiles. Total thickness of the Oa horizon ranges from 16 to 36 inches.

The IIC horizon has hue of 10YR, value of 2 through 4, and chroma of 1 or 2, with or without mottles or streaks of gray or brown. Texture is mucky sand, mucky fine sand, sand, or fine sand. Organic matter content ranges from about 2 to 20 percent. Combined thickness of the Oa and IIC horizons over the IIICr horizon is highly variable, but is dominantly 30 to 40 inches.

The IIICr horizon has hue of 10YR, value of 7 or 8, and chroma of 1 or 2. Hard limestone fragments occur randomly throughout the horizon and make up about 20 to 35 percent, by volume, of the horizon. Solution holes in this layer range from none to about three in each pedon and, where present, are filled with sandy mineral material and hard limestone fragments. Depth to the IVR horizon is commonly 40 to 51 inches, but in many places ranges to 60 inches or more.

Williston series

The Williston series is a member of the fine, mixed, hyperthermic family of Typic Hapludalfs. It consists of gently sloping, well drained soils that formed in thin deposits of marine sediments over limestone. These soils are in small areas on upland ridges. The water table is at a depth of more than 72 inches during most years. Slopes are smooth to concave and range from 2 to 5 percent.

Williston soils are geographically closely associated with Kendrick, Micanopy, and Williston Variant soils. Kendrick soils are in about the same position in the landscape as Williston soils; they differ by having a sandy A horizon more than 20 inches thick and by not having underlying limestone. Micanopy soils are somewhat poorly drained and differ by not having underlying limestone. Williston Variant soils are on slightly higher elevations and have limestone within 20 inches of the surface.

Typical profile of Williston loamy fine sand, 2 to 5 percent slopes, in a wooded area approximately 1 3/4 miles north of junction of U.S. Highway 98 and Florida Highway 491 and 1/2 mile west of Florida Highway 491, SW1/4NE1/4 sec. 12, T. 21 S., R. 18 E.:

A11—0 to 6 inches; dark gray (10YR 4/1) loamy fine sand; weak fine granular structure; very friable; many fine and medium roots; neutral; clear smooth boundary.

A12—6 to 12 inches; dark brown (10YR 4/3) loamy fine sand; weak fine granular structure; very friable; few fine roots; slightly acid; gradual wavy boundary.

B21t—12 to 18 inches; dark yellowish brown (10YR 4/4) sandy clay loam; common medium distinct dark red (10R 3/6) mottles; weak medium subangular blocky structure; very friable; few fine roots; slightly acid; gradual wavy boundary.

B22t—18 to 29 inches; yellowish brown (10YR 5/6) sandy clay; common medium prominent dark red (10R 3/6) and common medium distinct brown (10YR 5/3) mottles; moderate medium subangular blocky structure; firm; few fine roots; slightly acid; clear smooth boundary.

B23t—29 to 37 inches; yellowish brown (10YR 5/4) sandy clay; moderate medium subangular blocky structure; firm; few fine roots; mildly alkaline; abrupt wavy boundary.

IIR—37 inches; white (10YR 8/1) soft limestone mixed with a few boulders of harder limestone; calcareous.

Depth to limestone is 20 to 40 inches.

The Ap or A11 horizon has hue of 10YR, value of 3 through 5, and chroma of 1 through 3. Thickness is 4 to 6 inches, and reaction is strongly acid to neutral.

The A12 horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4. Thickness is 4 to 11 inches, and reaction is strongly acid to neutral.

Some profiles have a thin fine sand or loamy fine sand A2 horizon. Where present, it has hue of 10YR, value of 6, and chroma of 3 or 4. Combined thickness of the A horizon ranges from 8 to 20 inches.

The B21t horizon has hue of 10YR or 7.5YR, value of 4, and chroma of 4. Texture is sandy loam or sandy clay loam. Thickness is 0 to 7 inches. The reaction ranges from strongly acid to neutral.

The B22t and B23t horizons have hue of 5YR, 7.5YR, or 10YR; value of 4 or 5; and chroma of 3 through 8. Texture is sandy clay or clay. Thickness is 12 to 29 inches. Reaction ranges from slightly acid to mildly alkaline.

Williston Variant

The Williston Variant series is a member of the fine, mixed, hyperthermic, shallow family of Typic Hapludalfs. It consists of gently sloping, well drained, clayey soils that formed in thin deposits of marine sediments over limestone. These soils are in small areas on upland ridges. The water table is at a depth of more than 72 inches during most years. Slopes are smooth to concave and range from 2 to 5 percent.

Williston Variant soils are geographically closely associated with Kendrick, Micanopy, and Williston soils. Kendrick soils are in about the same position in the landscape as Williston Variant soils, but differ by having a sandy A horizon more than 20 inches thick and by not having underlying limestone. Micanopy soils are somewhat poorly drained and are not underlain by limestone. Williston soils are on slightly lower elevations and have limestone at a depth of more than 20 inches.

Typical profile of of Williston Variant loamy fine sand, 2 to 5 percent slopes, in a wooded area approximately 1 mile west of Hebron church on south side of road, SW1/4SW1/4 sec. 1, T. 21 S., R. 28 E.:

A1—0 to 4 inches; very dark grayish brown (10YR 3/2) loamy fine sand; weak fine granular structure; very friable; many fine and medium roots; moderately alkaline; clear smooth boundary.

B2t—4 to 12 inches; reddish brown (5YR 4/4) sandy clay; moderate medium subangular blocky structure; firm; many fine, medium, and large roots; reddish brown (5YR 4/3) clay films around peds; neutral; abrupt smooth boundary.

IIR—12 inches; white (10YR 8/1) soft limestone above and in cracks of underlying harder limestone.

Reaction ranges from neutral to moderately alkaline throughout the profile.

The Ap or A1 horizon has hue of 10YR, value of 3 through 5, and chroma of 1 through 3. Thickness is 3 to 6 inches.

Some pedons have a thin A2 horizon of loamy fine sand. Where present, the A2 horizon has hue of 10YR, value of 4 through 6, and chroma of 3 or 4.

The B2t horizon has hue of 2.5YR, 5YR, 7.5YR, or 10YR; value of 3 through 6; and chroma of 4 through 8. Texture is sandy clay or clay. Thickness is 4 to 16 inches. Some profiles have a thin B1t horizon of sandy clay loam that has the same colors as the B2t horizon.

Classification

The system of soil classification currently used was adopted by the National Cooperative Soil Survey in 1965. Readers interested in further details about the system should refer to the latest literature available (*12*).

The system of classification has six categories. Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. In this system the classification is based on the different soil properties that can be observed in the field or those that can be inferred either from other properties that are observable in the field or from the combined data of soil science and other disciplines. The properties selected for the higher categories are the result of soil genesis or of factors that affect soil genesis. In table 21, the soils of the survey area are classified according to the system. Categories of the system are discussed in the following paragraphs.

ORDER. Ten soil orders are recognized as classes in the system. The properties used to differentiate among orders are those that reflect the kind and degree of dominant soil-forming processes that have taken place. Each order is identified by a word ending in *sol*. An example is Entisol.

SUBORDER. Each order is divided into suborders based primarily on properties that influence soil genesis and are important to plant growth or that are selected to reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Aquent (*Aqu*, meaning water, plus *ent*, from Entisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of expression of pedogenic horizons; soil moisture and temperature regimes; and base status. Each great group is identified by the name of a suborder and a prefix that suggests something about the properties of the soil. An example is Psammaquents (*Psamm*, meaning sandy horizons, plus *aquent*, the suborder of Entisols that have an aquic moisture regime).

SUBGROUP. Each great group may be divided into three subgroups: the central (typic) concept of the great groups, which is not necessarily the most extensive subgroup; the intergrades, or transitional forms to other orders, suborders, or great groups; and the extragrades, which have some properties that are representative of the great groups but do not indicate transitions to any other known kind of soil. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that is thought to typify the great group. An example is Typic Psammaquents.

FAMILY. Families are established within a subgroup on the basis of similar physical and chemical properties that affect management. Among the properties considered in horizons of major biological activity below plow depth are particle-size distribution, mineral content, temperature regime, thickness of the soil penetrable by roots, consistence, moisture equivalent, soil slope, and permanent cracks. A family name consists of the name of a subgroup and a series of adjectives. The adjectives are the class names for the soil properties used as family differentiae. An example is siliceous, hyperthermic Typic Psammaquents.

SERIES. The series consists of soils that formed in a particular kind of material and have horizons that, except for texture of the surface soil or of the underlying sub-

stratum, are similar in differentiating characteristics and in arrangement in the soil profile. Among these characteristics are color, texture, structure, reaction, consistence, and mineral and chemical composition.

Formation of the soils

In this section, the processes of soil formation are discussed and related to the soils in the survey area.

Factors of soil formation

Soil is produced by forces of weathering and soil formation acting on the parent material that has been deposited or accumulated by geologic agencies. The kind of soil that develops depends on five major factors. These factors are the climate under which soil material has existed since accumulation; the plant and animal life in and on the soil; the type of parent material; the relief, or lay of the land; and the length of time the forces of soil formation have acted on the soil material.

The five soil-forming factors are interdependent; each modifies the effect of the others. Any one of the five factors can have more influence than the others on the formation of a soil and can account for most of its properties. For example, if the parent material is quartz sand, the soil generally has only weakly expressed horizons. The effect of the parent material is modified greatly in some places by the effects of climate, relief, and plants and animals in and on the soil. As a soil forms, it is influenced by more than one of the five factors, but in some places all but one factor can have little effect. A modification or variation in any of these factors results in a different soil.

Parent material

The parent material of the soils in Hernando County consists of beds of sandy and clayey materials that were transported by waters of the sea which covered the area a number of times during the Pleistocene period. During the high stands of the sea, the Mio-Pliocene sediments were eroded and redeposited or were reworked on the shallow sea bottom to form marine terraces.

Nearly all of the county is underlain by the Suwannee Limestone Formation (*6*). Only a narrow strip bordering the Withlacoochee River in the extreme northwestern corner of the county is not underlain by this formation. The Suwannee Formation is covered in the southeastern part of the county by sand and clay of the Hawthorn Formation and in the eastern part by sand generally referred to as the Alachua Formation. Several large quarries near Brooksville show good exposures of the Suwannee Limestone. In a large quarry about a mile southwest of Brooksville, lumps of hard, pure limestone are embedded in softer, clayey limestone. The hard lumps contain many fossils, most of which are preserved only as molds or siliceous pseudomorphs.

The parent materials in the survey area differ widely in mineral and chemical composition and in their physical constitution. The main physical differences, such as those between sand, silt, and clay, can be observed in the field. Other differences, such as mineral and chemical composition, are important to soil formation and to present physical and chemical characteristics. Many differences among soils in the survey area appear to reflect original differences in the parent materials as they were laid down.

Climate

The amount of precipitation, the temperature, the humidity, and the wind are the climatic forces that act on the parent materials of soils. These forces also cause some variation in the plant and animal life on and in the soils. In this way they influence changes in the parent material and, consequently, soil development.

This area has a warm, humid climate. The Gulf of Mexico and the numerous inland lakes have a moderating effect on summer and winter temperatures. Summer temperatures are fairly uniform from year to year and show little day-to-day variation. Winter temperatures, however, display considerable day-to-day variation. Rainfall averages about 55 inches a year.

Because of the warm climate and abundance of rainfall, chemical and biological actions are rapid. The abundance of rainfall leaches the soils of much of the plant nutrients.

Plants and animals

Plants have been the principal biological factors in the formation of soils in this survey area. Animals, insects, bacteria, and fungi also have been important to the chief functions of the plant and animal life or to furnish organic matter and to bring plant nutrients from the lower to the upper horizons. Differences in the amount of organic matter, nitrogen, and plant nutrients in the soils and differences in soil structure and porosity are among those caused by plants and animals.

Relief

Relief has affected the formation of soils in Hernando County primarily through its influence on soil-water relationships and its affect on erosion in the central ridge portion of the county. Other factors of soil formation normally associated with relief, such as temperature and plant cover, are of minor importance.

Three general areas—flatwoods, coastal swamps, and central ridge—are in the survey area. There are differences in soils in these different general areas that are directly related to relief.

The soils in the flatwoods area have a high water table and are perodically wet at the surface. The soils, therefore, are not so highly leached as those of the central ridge. The soils in the coastal swamps are covered with water for long periods of time and in many places have a high content of organic material on the surface. The soils in the central ridge are on higher elevations than those in

the flatwoods and coastal swamps. The deep, sandy soils on the eastern and western parts of the central ridge are mostly excessively drained and are not influenced by a ground water table. Many of the clayey and loamy soils in the central part of the ridge are influenced by a ground water table. These soils are also much more subject to erosion than soils in other parts of the county.

Time

Time is an important factor in soil formation. The physical and chemical changes brought about by climate, living organisms, and relief are slow. The length of time needed to convert raw geologic materials into soil varies according to the nature of the geologic material and the interaction of the other factors. Some basic minerals from which soils are formed weather fairly rapidly, while other minerals are chemically inert and show little change over long periods of time. The translocation of fine particles within the soil to form the various horizons is variable under different conditions, but the processes always involve relatively long periods of time.

In Hernando County the dominant geological materials are inactive. The sands are almost pure quartz and are highly resistant to weathering. The finer textured silts and clays are the product of earlier weathering.

In terms of geological time, relatively little time has elapsed since the material in which the soils in the survey area have developed was laid down or emerged from the sea. The loamy and clayey horizons formed in place through processes of clay translocation.

Processes of soil formation

Soil morphology refers to the process involved in the formation of the soil horizon or soil horizon differentiation. The differentiation of horizons in soils in Hernando County is the result of accumulation of organic matter, leaching of carbonates, reduction and transfer of iron, or accumulation of silicate clay minerals, or more than one of these processes.

Some organic matter has accumulated in the upper layers of most of the soils to form an A1 horizon. The quantity of organic matter is small in some of the soils, but fairly large in others.

Carbonates and salts have been leached in nearly all of the soils, but salts have not been leached in some of the tidal marsh soils. The effects of leaching have been indirect in that the leaching permitted the subsequent translocation of silicate clay materials in some soils. Most of the soils of the survey area are leached to varying degrees.

Reduction in transfer of iron has occurred in most of the soils in the survey area except the organic soils. In some of the wet soils, iron has been segregated within the deeper horizons to form reddish brown mottles and concretions. In the Kendrick soil, there is evidence of wetting and clay movement or alteration in the form of a light colored, leached A2 horizon and a loamy Bt horizon that has sand grains coated and bridged with clay materials.

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Glossary

Absorption field. The area into which a subsurface system of tile or perforated pipe distributes effluent from a septic tank into natural soil.

Association, soil. A group of soils geographically associated in a characteristic repeating pattern and defined and delineated as a single mapping unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as—

	Inches
Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	More than 9

Base saturation. The degree to which material having base exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, K), expressed as a percentage of the exchange capacity.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedding. A partial method of controlling excess water for the growth of citrus and other crops using regularly spaced shallow ditches and beds.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Calcareous soil. A soil containing enough calcium carbonate (commonly with magnesium carbonate) to effervesce (fizz) visibly when treated with cold, dilute hydrochloric acid. A soil having measurable amounts of calcium carbonate or magnesium carbonate.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity, but is more precise in meaning.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coat, clay skin.

Coarse textured (light textured) soil. Sand or loamy sand.

Cobblestone (or cobble). A rounded or partly rounded fragment of rock 3 to 10 inches (7.5 to 25 centimeters) in diameter.

Complex, soil. A mapping unit of two or more kinds of soil occurring in such an intricate pattern that they cannot be shown separately on a soil map at the selected scale of mapping and publication.

Compressible. Excessive decrease in volume of soft soil under load.

Concretions. Grains, pellets, or nodules of various sizes, shapes, and colors consisting of concentrated compounds or cemented soil grains. The composition of most concretions is unlike that of the surrounding soil. Calcium carbonate and iron oxide are common compounds in concretions.

Consistence, soil. The feel of the soil and the ease with which a lump can be crushed by the fingers. Terms commonly used to describe consistence are—

Loose.—Noncoherent when dry or moist; does not hold together in a mass.

Friable.—When moist, crushes easily under gentle pressure between thumb and forefinger and can be pressed together into a lump.

Firm.—When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.

Plastic.—When wet, readily deformed by moderate pressure but can be pressed into a lump; will form a "wire" when rolled between thumb and forefinger.

Sticky.—When wet, adheres to other material and tends to stretch somewhat and pull apart rather than to pull free from other material.

Hard.—When dry, moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.

Soft.—When dry, breaks into powder or individual grains under very slight pressure.

Cemented.—Hard; little affected by moistening.

Contour stripcropping (or contour farming). Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is 40 or 80 inches (1 or 2 meters).

Corrosive. High risk of corrosion to uncoated steel or deterioration of concrete.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cutbanks cave. Unstable walls of cuts made by earthmoving equipment. The soil sloughs easily.

Deep to water. Deep to permanent water table during dry season.

Depth to rock. Bedrock at a depth that adversely affects the specified use.

Drainage class (natural). Refers to the frequency and duration of periods of saturation or partial saturation during soil formation, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation but may be caused by the sudden deepening of channels or the blocking of drainage outlets. Seven classes of natural soil drainage are recognized:

Excessively drained.—Water is removed from the soil very rapidly. Excessively drained soils are commonly very coarse textured, rocky, or shallow. Some are steep. All are free of the mottling related to wetness.

Somewhat excessively drained.—Water is removed from the soil rapidly. Many somewhat excessively drained soils are sandy and rapidly pervious. Some are shallow. Some are so steep that much of the water they receive is lost as runoff. All are free of the mottling related to wetness.

Well drained.—Water is removed from the soil readily, but not rapidly. It is available to plants throughout most of the growing season, and wetness does not inhibit growth of roots for significant periods during most growing seasons. Well drained soils are commonly medium textured. They are mainly free of mottling.

Moderately well drained.—Water is removed from the soil somewhat slowly during some periods. Moderately well drained soils are wet for only a short time during the growing season, but periodically for long enough that most mesophytic crops are affected. They commonly have a slowly pervious layer within or directly below the solum, or periodically receive high rainfall, or both.

Somewhat poorly drained.—Water is removed slowly enough that the soil is wet for significant periods during the growing season. Wetness markedly restricts the growth of mesophytic crops unless artificial drainage is provided. Somewhat poorly drained soils commonly have a slowly pervious layer, a high water table, additional water from seepage, nearly continuous rainfall, or a combination of these.

Poorly drained.—Water is removed so slowly that the soil is saturated periodically during the growing season or remains wet for long periods. Free water is commonly at or near the surface for long enough during the growing season that most mesophytic crops cannot be grown unless the soil is artificially drained. The soil is not continuously saturated in layers directly below plow depth. Poor drainage results from a high water table, a slowly pervious layer within the profile, seepage, nearly continuous rainfall, or a combination of these.

Very poorly drained.—Water is removed from the soil so slowly that free water remains at or on the surface during most of the growing season. Unless the soil is artificially drained, most mesophytic crops cannot be grown. Very poorly drained soils are commonly level or depressed and are frequently ponded. Yet, where rainfall is high and nearly continuous, they can have moderate or high slope gradients, as for example in "hillpeats" and "climatic moors."

Drainage, surface. Runoff, or surface flow of water, from an area.

Eolian soil material. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

Erosion. The wearing away of the land surface by running water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of the activities of man or other animals or of a catastrophe in nature, for example, fire, that exposes a bare surface.

Excess fines. Excess silt and clay. The soil does not provide a source of gravel or sand for construction purposes.

Excess humus. Too much organic matter for intended use.

Excess salts. Excess water soluble salts. Excessive salts restrict the growth of most plants.

Excessive permeability. The rapid movement of water through the soil at rates adversely affecting the specified use.

Fast intake. The rapid movement of water into the soil.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fill area. Raise the surface level of the land to the desired level with suitable soil material.

Flatwoods. Broad, nearly level, low ridges of poorly drained dominantly sandy soils characteristically vegetated with an open forest of pines and a ground cover of sawpalmetto and pineland threeawn.

Flooding. The temporary covering of soil with water from overflowing streams, runoff from adjacent slopes, and tides. Frequency, duration, and probable dates of occurrence are estimated. Frequency is expressed as none, rare, occasional, and frequent. *None* means that flooding is not probable; *rare* that it is unlikely but possible under unusual weather conditions; *occasional* that it occurs on an average of once or less in 2 years; and *frequent* that it occurs on an average of more than once in 2 years. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, and *long* if more than 7 days. Probable dates are expressed in months; *November-May*, for example, means that flooding can occur during the period November through May. Water standing for short periods after rainfall or commonly covering swamps and marshes is not considered flooding.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Fluvial soil material. Earthy parent material accumulated through the action of a river.

Fragment. A part of the underlying limestone that has been broken off or detached. In this survey, fragments range from 2 mm to 25 cm in effective diameter or 2 mm to 38 cm in length if pieces are thin and flat.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gleyed soil. A soil having one or more neutral gray horizons as a result of waterlogging and lack of oxygen. The term "gleyed" also designates gray horizons and horizons having yellow and gray mottles as a result of intermittent waterlogging.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Habitat. The natural abode of a plant or animal; refers to the kind of environment in which a plant or animal normally lives, as opposed to the range or geographical distribution.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. The major horizons of mineral soil are as follows:

O horizon.—An organic layer, fresh and decaying plant residue, at the surface of a mineral soil.

A horizon.—The mineral horizon, formed or forming at or near the surface, in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon most of which was originally part of a B horizon.

A2 horizon.—A mineral horizon, mainly a residual concentration of sand and silt high in content of resistant minerals as a result of the loss of silicate clay, iron, aluminum, or a combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of change from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics caused (1) by accumulation of clay, sesquioxides, humus, or a combination of these; (2) by prismatic or blocky structure; (3) by redder or browner colors than those in the A horizon; or (4) by a combination of these. The combined A and B horizons are generally called the solum, or true soil. If a soil lacks a B horizon, the A horizon alone is the solum.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the A or B horizon. The material of a C horizon may be either like or unlike that from which the solum is presumed to have formed. If the material is known to differ from that in the solum the Roman numeral II precedes the letter C.

R layer.—Consolidated rock beneath the soil. The rock commonly underlies a C horizon, but can be directly below an A or a B horizon.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are—

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Land shaping. Rearrangement of soil materials by cutting and filling to form a more suitable site for the intended use.

Low strength. The soil has inadequate strength to support loads.

Maintain even moisture content. Prevent soil from drying out by whatever appropriate or feasible method so as to prevent soil from shrinking.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Mottling generally indicates poor aeration and impeded drainage. Descriptive terms are as follows: abundance—*few*, *common*, and *many*; size—*fine*, *medium*, and *coarse*; and contrast—*faint*, *distinct*, and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).

Mounding. Filling the area for the absorption field with suitable soil material to the level above the water table necessary to meet local and State requirements.

Muck. Dark colored, finely divided, well decomposed organic soil material mixed with mineral soil material. The content of organic matter is more than 20 percent.

No practical measures known. No feasible or practical measures to overcome adverse soil properties for the selected use are known.

Percolation. The downward movement of water through the soil.

Percs slowly. The slow movement of water through the soil adversely affecting the specified use.

Permeability. The quality that enables the soil to transmit water or air, measured as the number of inches per hour that water moves through the soil. Terms describing permeability are *very slow* (less than 0.06 inch), *slow* (0.06 to 0.20 inch), *moderately slow* (0.2 to 0.6 inch), *moderate* (0.6 to 2.0 inches), *moderately rapid* (2.0 to 6.0 inches), *rapid* (6.0 to 20 inches), and *very rapid* (more than 20 inches).

Phase, soil. A subdivision of a soil series or other unit in the soil classification system based on differences in the soil that affect its management. A soil series, for example, may be divided into phases on the bases of differences in slope, stoniness, thickness, or some other characterisitc that affects management. These differencees are too small to justify separate series.

pH value. (See Reaction, soil). A numerical designation of acidity and alkalinity in soil.

Piping. Moving water of subsurface tunnels or pipelike cavities in the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from a semisolid to a plastic state.

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents that commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on exposure to repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade, whereas ironstone cannot be cut but can be broken or shattered with a spade. Plinthite is one form of the material that has been called laterite.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Relief. The elevations or inequalities of a land surface, considered collectively.

Rooting depth. Shallow root zone. The soil is shallow over a layer that greatly restricts roots. See Root zone.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged in stream channels from a drainage area. The water that flows off the land surface without sinking in is called surface runoff; that which enters the ground before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Seal or line. Seal or line the bottom and sides of excavations and trenches to prevent the downward and lateral movement of water.

Seepage. The rapid movement of water through the soil. Seepage adversely affects the specified use.

Series, soil. A group of soils, formed from a particular type of parent material, having horizons that, except for the texture of the A or surface horizon, are similar in all profile characteristics and in arrangement in the soil profile. Among these characteristics are color, texture, structure, reaction, consistence, and mineralogical and chemical composition.

Shore side slopes. Construct walls along sides of excavated trenches to prevent soil from caving.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Sinkhole. A depression in a landscape where limestone has been locally dissolved.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75 feet.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slough. A broad, usually grassy, slightly depressional, poorly defined drainageway.

Soil. A natural, three-dimensional body at the earth's surface that is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil blowing. Soil easily moved and deposited by wind.

Special equipment. Equipment needed to traverse soft and wet soils of low strength.

Standing water. Shallow water standing above the surface for long (usually more than 3 months) periods of time.

Subsidence. The sinking of an organic soil or a soil that contains semifluid layers to a lower level after the lowering of the water table.

Surface stabilization. Stabilize the surface by an appropriate means so that vehicles or foot traffic can traverse an area.

Thin layer. Otherwise suitable soil material too thin for the specified use.

Too clayey. Soil slippery and sticky when wet and slow to dry.

Too sandy. Soil soft and loose; droughty and low in fertility.

Water control. Regulate the water table according to the need of the intended use by canals, ditches, tile, pumping, or any other appropriate method.

Water table. The upper limit of the soil or underlying rock material that is wholly saturated with water.

Water table, apparent. A thick zone of free water in the soil. An apparent water table is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil.

Water table, perched. A water table standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

Illustrations

Figure 1.—Newly formed sink in an area of Candler fine sand, 0 to 5 percent slopes. The sinks form when soil overburden collapses into underground limestone caverns.

Figure 2.—Typical landscape of Arredondo-Sparr-Kendrick association. Cattle are grazing on improved pasture grasses. The small pond in the low area provides water for the cattle.

Figure 3.—Pines; post oak, turkey oak, and laurel oak; and pineland three-awn in the Candler-Lake association. The soil is Lake fine sand, 0 to 5 percent slopes.

Figure 4.—Low area of Blichton loamy fine sand, 0 to 2 percent slopes, in Nobleton-Blichton-Flemington association after heavy rain. Because of the high rate of runoff and lack of good drainage outlets, water stands in low areas.

Figure 5.—Mixed pines, oaks, and saw-palmetto on Paisley-Floridana-Wabasso association. The soil is Paisley fine sand.

Figure 6.—An area of Basinger fine sand, depressional. This soil is covered with standing water for 6 to 9 months or more in most years.

Figure 7.—An area of Candler-Urban land complex.

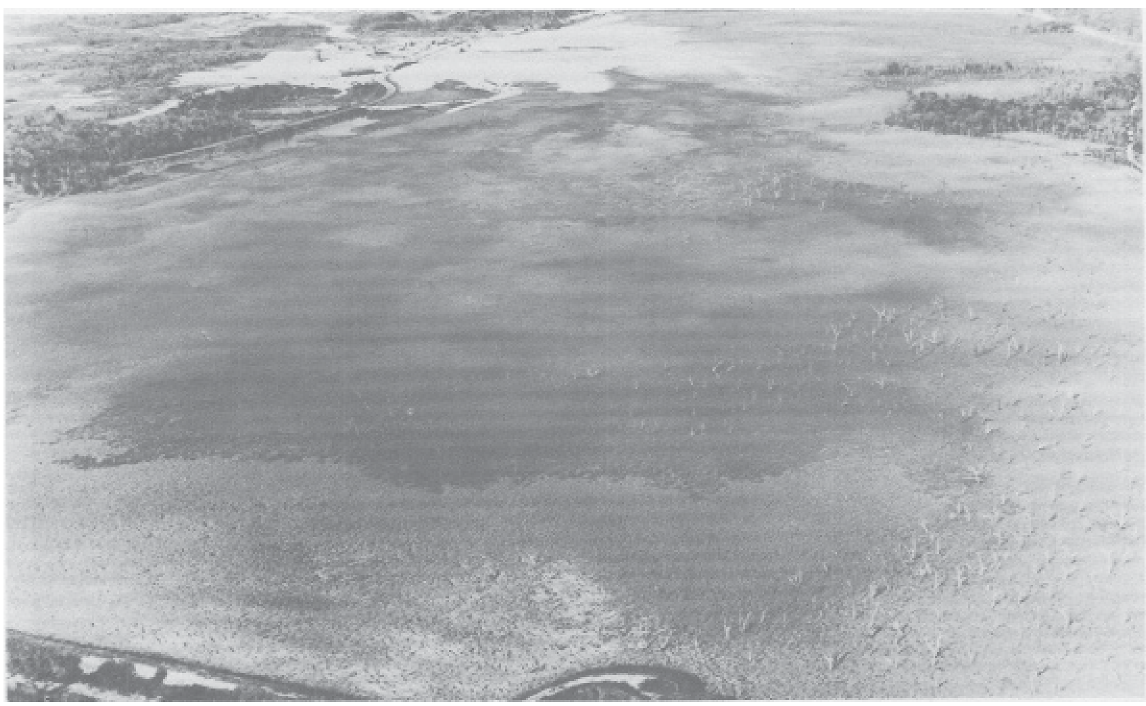

Figure 8.—An area of Hydraquents. The retaining dikes surrounding the soil can be easily seen as can the outward spread of the material in the center background.

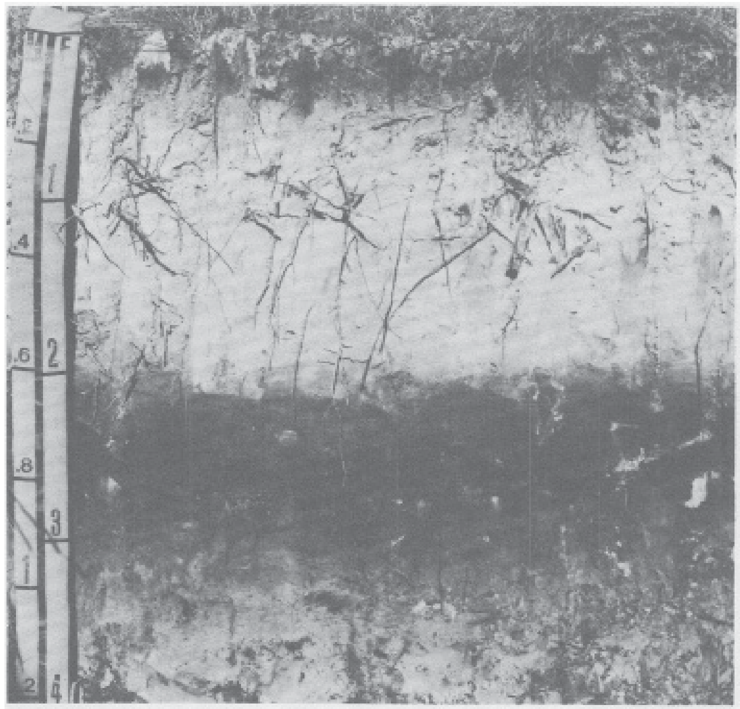

Figure 9.—Profile of Myakka fine sand showing the dark colored, weakly cemented subsoil.

Figure 10.—An area of Pits-Dumps complex. The open pits from which limestone has been removed are in the foreground. The white areas in the background are piles of excavated limestone.

Figure 11.—This area of Williston Variant loamy fine sand, 2 to 5 percent slopes, has many stones on the surface. These stones will have to be removed before the soil can be used for cultivated crops.

Figure 12.—The shrinking and swelling of Flemington fine sandy loam, 2 to 5 percent slopes, has cracked the foundation and wall of this building.

Tables

TABLE 1.--TEMPERATURE AND PRECIPITATION DATA

[Information extracted from U.S. Department of Commerce, NOAA, Climatography of the United States No. 86-6 climatic summary of the United States--supplement for 1951 through 1960 Florida. Data recorded at Beef Cattle Research Station, Chinsegut Hill]

Month	Temperature					Precipitation				
	*Monthly normal mean	Normal daily maximum	Normal daily minimum	Mean number of days with temperature: 90 deg. F or higher	Mean number of days with temperature: 32 deg. F or lower	*Normal total	Maximum total	Minimum total	Mean number of days with rainfall of--: 0.10 inch or more	Mean number of days with rainfall of--: 0.50 inch or more
	F	F	F			In	In	In		
January----	61.2	70.1	43.5	0	2	2.33	7.14	0.48	4	2
February---	62.8	73.4	51.3	0	1	3.07	9.59	1.14	5	3
March------	66.3	76.9	54.4	0	**	4.44	17.70	1.33	5	3
April------	71.3	82.3	59.9	2	0	3.55	6.92	1.07	5	2
May--------	76.7	88.0	65.2	12	0	3.53	8.18	0.45	6	2
June-------	80.4	90.4	70.8	20	0	7.82	8.94	2.76	9	4
July-------	81.0	90.5	71.8	21	0	9.49	15.72	4.66	11	5
August-----	81.1	90.2	72.4	22	0	8.97	14.84	2.61	10	5
September-	79.7	88.6	70.9	15	0	7.43	12.84	1.90	7	4
October----	73.9	82.5	63.8	3	0	3.33	8.97	0.48	5	2
November---	66.4	76.0	55.0	**	**	1.84	8.30	0.22	2	1
December---	62.0	70.8	49.8	0	1	2.25	8.10	0.01	3	2
Year----	71.9	81.6	61.2	95	4	58.05	80.17	37.46	72	35

*Climatological normal (1931-60)
**Fraction of a day that is less than 1/2.

TABLE 2.--FREEZE DATA

[Information extracted from U.S. Department of Commerce, NOAA, Climatography of the United States No. 60-8 climate of Florida, Revised June 1972. Date recorded at the Beef Cattle Research Station, Chinsegut Hill]

Freeze threshold temperature	Mean date of last spring occurrence	Mean date of first fall occurrence	Mean number of days between dates	Years of record, spring	Number of occurrences in spring	Years of record, fall	Number of occurrences in fall
32	February 6	December 14	311	30	23	30	20
28	January 17	December 24	341	30	15	30	8
24	January 5	*	*	30	6	30	1
20	*	*	*	30	0	30	1
16	*	*	*	30	0	30	0

*Frequency of occurrence in either spring or fall is one year in ten, or less.

TABLE 3.--SOIL POTENTIALS AND RESTRICTIVE FEATURES BY SOIL ASSOCIATIONS

[See text for definitions of potential ratings. To reach soil potential, restrictive features must be overcome]

Soil association	Percent of county	Community development	Citrus	Improved pasture	Woodland
1. Candler-Tavares-Paola	29	Very high	Medium: droughty.	Low: droughty.	Low: droughty.
2. Arredondo-Sparr-Kendrick	16	Very high	Very high	Medium: droughty.	Medium: droughty.
3. Candler-Lake	7	Very high	Medium: droughty.	Low: droughty.	Low: droughty.
4. Masaryk	2	Very high	High: droughty.	Medium: droughty.	Medium: droughty.
5. Nobleton-Blichton-Flemington	22	Medium: wetness, shrink-swell.	Medium: wetness.	High: wetness.	High: wetness.
6. EauGallie-Wabasso-Basinger	3	Medium: wetness.	Medium: wetness.	Medium: wetness, droughty.	Medium: wetness.
7. Myakka-Basinger	3	Medium: wetness.	Low: wetness.	Medium: wetness, droughty.	Medium: wetness.
8. Paisley-Floridana-Wabasso	2	Low: shrink-swell, low strength, wetness, standing water.	Low: wetness.	Medium: wetness.	Medium: wetness.
9. Okeelanta-Aripeka-Terra Ceia	11	Very low: excess humus, low strength, wetness.	Very low: excess humus, wetness.	High: wetness.	Very low: wetness.
10. Homosassa-Weekiwachee-Lacoochee	4	Low: flooding, wetness.	Very low: wetness, excess salt, floods.	Very low: wetness, excess salt, floods.	Very low: wetness, excess salt, floods.
11. Floridana-Basinger	1	Low: wetness, floods.	Very low: wetness, floods.	Medium: wetness, floods.	Medium: wetness, floods.

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Map symbol	Soil name	Acres	Percent
1	Adamsville fine sand	262	0.1
2	Anclote fine sand	1,538	0.5
3	Arents-Urban land complex	640	0.2
4	Aripeka fine sand	1,421	0.5
5	Aripeka-Okeelanta-Lauderhill association	14,550	4.7
6	Arredondo fine sand, 0 to 5 percent slopes	16,264	5.2
7	Arredondo fine sand, 5 to 8 percent slopes	2,643	0.8
8	Astatula fine sand, 0 to 8 percent slopes	1,514	0.5
9	Basinger fine sand	2,186	0.7
10	Basinger fine sand, depressional	4,460	1.4
11	Blichton loamy fine sand, 0 to 2 percent slopes	2,208	0.7
12	Blichton loamy fine sand, 2 to 5 percent slopes	9,329	3.0
13	Blichton loamy fine sand, 5 to 8 percent slopes	2,249	0.7
14	Candler fine sand, 0 to 5 percent slopes	90,195	28.8
15	Candler fine sand, 5 to 8 percent slopes	12,786	4.1
16	Candler-Urban land complex	1,005	0.3
17	Delray fine sand	1,642	0.5
18	EauGallie fine sand	4,312	1.4
19	Electra Variant fine sand, 0 to 5 percent slopes	1,250	0.4
20	Flemington fine sandy loam, 0 to 2 percent slopes	1,435	0.5
21	Flemington fine sandy loam, 2 to 5 percent slopes	8,465	2.7
22	Flemington fine sandy loam, 8 to 12 percent slopes	641	0.2
23	Floridana fine sand	2,651	0.8
24	Floridana-Basinger association, occasionally flooded	918	0.3
25	Floridana Variant loamy fine sand	1,921	0.6
26	Homosassa mucky fine sandy loam	4,862	1.6
27	Hydraquents	1,554	0.5
28	Kanapaha fine sand	991	0.3
29	Kendrick fine sand, 0 to 5 percent slopes	8,350	2.7
30	Lacoochee fine sandy loam	1,238	0.4
31	Lake fine sand, 0 to 5 percent slopes	5,305	1.7
32	Masaryk very fine sand, 0 to 5 percent slopes	4,876	1.6
33	Micanopy loamy fine sand, 0 to 2 percent slopes	1,495	0.5
34	Micanopy loamy fine sand, 2 to 5 percent slopes	7,784	2.5
35	Myakka fine sand	6,663	2.1
36	Nobleton fine sand, 0 to 5 percent slopes	17,092	5.5
37	Okeelanta-Terra Ceia association	11,703	3.7
38	Paisley fine sand	2,671	0.9
39	Paola fine sand, 0 to 8 percent slopes	3,477	1.1
40	Pineda fine sand	245	0.1
41	Pits	570	0.2
42	Pits-Dumps complex	5,364	1.7
43	Pomello fine sand, 0 to 5 percent slopes	1,405	0.4
44	Pompano fine sand	319	0.1
45	Quartzipsamments, shaped, 0 to 5 percent slopes	262	0.1
46	Samsula muck	157	0.1
47	Sparr fine sand, 0 to 5 percent slopes	12,152	3.9
48	Sparr fine sand, 5 to 8 percent slopes	1,408	0.5
49	Tavares fine sand, 0 to 5 percent slopes	6,148	2.0
50	Udalfic Arents-Urban land complex	503	0.2
51	Wabasso fine sand	3,363	1.1
52	Wauchula fine sand, 0 to 5 percent slopes	6,692	2.1
53	Weekiwachee muck	3,747	1.2
54	Weekiwachee-Homosassa association	1,179	0.4
55	Williston loamy fine sand, 2 to 5 percent slopes	778	0.2
56	Williston Variant loamy fine sand, 2 to 5 percent slopes	1,448	0.5
	Water	2,034	0.6
	Total	312,320	100.0

TABLE 5.--YIELDS PER ACRE OF CROPS AND PASTURE

[All yields were estimated for a high level of management in 1975. Absence of a yield figure indicates the crop is seldom grown or is not suited]

Soil name and map symbol	Oranges	Grapefruit	Corn	Soybeans	Watermelons	Bahiagrass	Grass-clover
	Box	Box	Bu	Bu	Ton	AUM*	AUM*
Adamsville:							
1	375	500	---	---	---	7.0	10.0
Anclote:							
2	---	---	---	---	---	---	---
Arents:							
**3	---	---	---	---	---	---	---
Aripeka:							
4	---	---	---	---	---	7.5	---
**5:							
Aripeka part	---	---	---	---	---	7.5	---
Okeelanta part	---	---	---	---	---	12.0	---
Lauderhill part	---	---	---	---	---	12.0	---
Arredondo:							
6	450	650	---	25	10.0	8.0	---
7	450	650	---	25	9.5	8.0	---
Astatula:							
8	350	400	---	---	10.0	3.0	---
Basinger:							
9	350	450	---	---	---	8.0	12.0
10	---	---	---	---	---	---	---
Blichton:							
11, 12	400	600	50	35	9.0	10.0	12.0
13	400	600	45	25	9.0	10.0	12.0
Candler:							
14	425	625	35	---	10.0	7.0	---
15	400	600	---	---	---	6.5	---
**16	---	---	---	---	---	---	---
Delray:							
17	---	---	---	---	---	---	---
EauGallie:							
18	375	575	---	---	---	8.0	12.0
Electra Variant:							
19	---	---	---	---	---	6.0	---
Flemington:							
20, 21	---	---	---	35	8.0	10.0	12.0
22	---	---	---	---	---	8.0	9.5
Floridana:							
23	---	---	---	---	---	---	---
**24:							
Floridana part	---	---	---	---	---	10.0	13.0
Basinger part	---	---	---	---	---	8.0	---

See footnotes at end of table.

TABLE 5.--YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Oranges	Grapefruit	Corn	Soybeans	Watermelons	Bahiagrass	Grass-clover
	Box	Box	Bu	Bu	Ton	AUM*	AUM*
Floridana Variant:							
25	---	---	---	---	---	---	---
Homosassa:							
26	---	---	---	---	---	---	---
Hydraquents:							
27	---	---	---	---	---	---	---
Kanapaha:							
28	475	675	55	25	9.5	9.0	---
Kendrick:							
29	525	725	60	35	---	10.0	---
Lacoochee:							
30	---	---	---	---	---	---	---
Lake:							
31	500	700	---	---	10.0	4.5	---
Masaryk:							
32	500	700	---	25	20.0	8.0	---
Micanopy:							
33, 34	475	675	70	40	11.0	10.0	---
Myakka:							
35	350	550	---	---	---	9.0	12.0
Nobleton:							
36	475	675	60	30	11.0	10.0	---
Okeelanta:							
**37:							
Okeelanta part	---	---	---	---	---	12.0	---
Terra Ceia part	---	---	---	---	---	15.0	---
Paisley:							
38	---	---	---	35	---	10.0	12.0
Paola:							
39	250	300	---	---	---	4.5	---
Pineda:							
40	425	575	---	---	---	8.0	12.0
Pits:							
41, **42	---	---	---	---	---	---	---
Pomello:							
43	250	400	---	---	---	3.5	---
Pompano:							
44	300	400	---	---	---	8.0	10.0
Quartzipsamments, shaped:							
45	---	---	---	---	---	---	---
Samsula:							
46	---	---	---	---	---	12.0	---
Sparr:							
47	415	615	50	25	10.0	9.0	---
48	415	615	50	---	9.5	9.0	---
Tavares:							
49	425	600	---	---	8.0	8.0	---

See footnotes at end of table.

TABLE 5.--YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Oranges	Grapefruit	Corn	Soybeans	Watermelons	Bahiagrass	Grass-clover
	Box	Box	Bu	Bu	Ton	AUM*	AUM*
Udalfic Arents:							
**50	---	---	---	---	---	---	---
Wabasso:							
51	400	575	---	---	---	10.0	12.0
Wauchula:							
52	400	575	---	---	---	10.0	12.0
Weekiwachee:							
53	---	---	---	---	---	---	---
**54:							
Weekiwachee part	---	---	---	---	---	---	---
Homosassa part	---	---	---	---	---	---	---
Williston:							
55	525	725	65	35	10.0	10.0	---
Williston Variant:							
56	---	---	55	---	10.0	8.0	---

*Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for a period of 30 days.
**This mapping unit is made up of two or more dominant kinds of soil. See mapping unit description for the composition and behavior of the whole mapping unit.

TABLE 6.--CAPABILITY CLASSES AND SUBCLASSES

[Miscellaneous areas excluded. Absence of an entry means no acreage]

Class	Total acreage	Major management concerns: Erosion (e)	Wetness (w)	Soil problem (s)
		Acres	Acres	Acres
I	---	---	---	---
II	35,499	9,128	26,371	---
III	101,854	---	62,414	39,440
IV	115,135	---	14,136	100,999
V	2,671	---	2,671	---
VI	21,987	---	1,555	20,432
VII	12,112	---	12,112	---
VIII	12,580	---	12,580	---

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY

[Only the soils suitable for production of commercial trees are listed in this table. Absence of an entry in a column means the information was not available]

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Plant competition	Potential productivity: Important trees	Potential productivity: Site index	Trees to plant
Adamsville:								
1	3w	Slight	Moderate	Moderate	Moderate	Slash pine Longleaf pine	80 70	Slash pine.
Anclote:								
2	2w	Slight	Severe	Severe	Severe	Slash pine Longleaf pine	90 75	Slash pine.
Aripeka:								
4	3w	Slight	Slight	Moderate	Moderate	Slash pine Longleaf pine	80 65	Slash pine.
*5:								
Aripeka part	3w	Slight	Slight	Moderate	Moderate	Slash pine Longleaf pine	80 65	Slash pine.
Okeelanta part.								
Lauderhill part.								
Arredondo:								
6, 7	3s	Slight	Moderate	Slight	Moderate	Slash pine Loblolly pine Longleaf pine	80 80 70	Slash pine.
Astatula:								
8	5s	Slight	Severe	Moderate	Slight	Sand pine	60	Sand pine.
Basinger:								
9	4w	Slight	Severe	Moderate	Moderate	Slash pine Longleaf pine	70 60	Slash pine.
10	4w	Slight	Severe	Severe	Severe	Pond pine	60	
Blichton:								
11, 12, 13	2w	Slight	Moderate	Slight	Moderate	Slash pine Loblolly pine Longleaf pine	90 90 80	Slash pine.
Candler:								
14, 15	4s	Slight	Moderate	Moderate	Moderate	Slash pine Longleaf pine Sand pine	70 60 75	Sand pine, slash pine.
*16:								
Candler part	4s	Slight	Moderate	Moderate	Moderate	Slash pine Longleaf pine Sand pine	70 60 75	Sand pine, slash pine.
Urban land part.								
Delray:								
17	2w	Slight	Severe	Severe	Moderate	Slash pine Longleaf pine	90 70	Slash pine.
EauGallie:								
18	3w	Slight	Moderate	Moderate	Moderate	Slash pine Longleaf pine	80 70	Slash pine.
Electra Variant:								
19	4s	Slight	Moderate	Severe	Moderate	Slash pine Sand pine Longleaf pine	70 65 60	Slash pine, sand pine.

See footnote at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Plant competition	Potential productivity: Important trees	Potential productivity: Site index	Trees to plant
Flemington: 20, 21, 22	2w	Slight	Moderate	Slight	Moderate	Slash pine Loblolly pine Longleaf pine Sweetgum Water hickory Water oak	90 90 75 --- --- ---	Slash pine.
Floridana: 23	2w	Slight	Severe	Severe	Severe	Slash pine Longleaf pine	90 70	Slash pine.
*24: Floridana part	2w	Slight	Severe	Severe	Severe	Slash pine Longleaf pine	90 70	Slash pine.
Basinger part	4w	Slight	Severe	Severe	Severe	Pond pine	60	
Floridana Variant: 25	2w	Slight	Severe	Severe	Moderate	Slash pine Loblolly pine Longleaf pine Sweetgum	90 90 75 90	Slash pine, loblolly pine, American sycamore, sweetgum.
Kanapaha: 28	3w	Slight	Moderate	Slight	Moderate	Slash pine Loblolly pine Longleaf pine	80 80 70	Slash pine.
Kendrick: 29	2s	Slight	Moderate	Moderate	Moderate	Slash pine Loblolly pine Longleaf pine	90 90 75	Slash pine, loblolly pine.
Lake: 31	3s	Slight	Moderate	Moderate	Moderate	Slash pine Longleaf pine	80 65	Slash pine.
Masaryk: 32	3s	Slight	Moderate	Moderate	Moderate	Slash pine Longleaf pine	80 70	Slash pine.
Micanopy: 33, 34	2o	Slight	Slight	Slight	Slight	Slash pine Loblolly pine Longleaf pine	90 90 75	Slash pine.
Myakka: 35	3w	Slight	Moderate	Moderate	Moderate	Slash pine Longleaf pine	80 70	Slash pine.
Nobleton: 36	2o	Slight	Slight	Slight	Slight	Slash pine Loblolly pine Longleaf pine	90 90 75	Slash pine, loblolly pine.
Paisley: 38	1w	Slight	Severe	Severe	Severe	Slash pine Loblolly pine	100 100	Slash pine, loblolly pine.
Paola: 39	5s	Slight	Moderate	Severe	Slight	Sand pine Slash pine	50 60	Sand pine.
Pineda: 40	3w	Slight	Moderate	Severe	Moderate	Slash pine Longleaf pine	80 70	Slash pine.

See footnote at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Plant competition	Potential productivity: Important trees	Potential productivity: Site index	Trees to plant
Pomello:								
43	4s	Slight	Moderate	Severe	Moderate	Slash pine	70	Sand pine.
						Longleaf pine	60	
						Sand pine	60	
Pompano:								
44	4w	Slight	Severe	Severe	Moderate	Slash pine	70	Slash pine.
						Longleaf pine	60	
Sparr:								
47, 48	3s	Slight	Moderate	Moderate	Moderate	Slash pine	80	Slash pine.
						Loblolly pine	80	
						Longleaf pine	70	
Tavares:								
49	3s	Slight	Moderate	Moderate	Moderate	Slash pine	80	Slash pine.
						Longleaf pine	70	
Wabasso:								
51	3w	Slight	Moderate	Moderate	Moderate	Slash pine	80	Slash pine.
						Longleaf pine	70	
Wauchula:								
52	3w	Slight	Moderate	Moderate	Moderate	Slash pine	80	Slash pine.
						Longleaf pine	70	
Williston:								
55	2o	Slight	Slight	Slight	Moderate	Slash pine	90	Slash pine.
						Loblolly pine	90	
						Longleaf pine	75	
Williston Variant:								
56	3d	Slight	Slight	Moderate	Slight	Slash pine	80	Slash pine.
						Loblolly pine	80	
						Longleaf pine	65	

*This mapping unit is made up of two or more dominant kinds of soil. See mapping unit description for the composition and behavior of the whole mapping unit.

TABLE 8.--BUILDING SITE DEVELOPMENT

["Depth to rock" and some of the other terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry means soil was not rated]

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
Adamsville:					
1	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
Anclote:					
2	Severe: wetness, cutbanks cave, standing water.	Severe: wetness, standing water.	Severe: wetness, standing water.	Severe: wetness, standing water.	Severe: wetness, standing water.
Arents:					
*3:					
Arents part	Moderate: small stones, wetness, excess humus.	Severe: excess humus.	Severe: large stones, excess humus.	Severe: excess humus.	Severe: excess humus.
Urban land part.					
Aripeka:					
4	Severe: depth to rock, floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness, depth to rock.	Severe: floods, wetness.	Moderate: wetness.
*5:					
Aripeka part	Severe: depth to rock, wetness.	Severe: wetness.	Severe: wetness, depth to rock.	Severe: wetness.	Moderate: wetness.
Okeelanta part	Severe: excess humus, wetness.	Severe: excess humus, low strength, wetness.	Severe: excess humus, low strength, wetness.	Severe: wetness, excess humus, low strength.	Severe: excess humus, low strength, wetness.
Lauderhill part	Severe: depth to rock, wetness.	Severe: wetness, excess humus, low strength.	Severe: depth to rock, wetness, low strength.	Severe: excess humus, wetness, low strength.	Severe: excess humus, wetness, low strength.
Arredondo:					
6	Severe: cutbanks cave.	Slight	Slight	Slight	Slight.
7	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight.
Astatula:					
8	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight.
Basinger:					
9	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: corrosive, wetness.	Severe: wetness.
10	Severe: cutbanks cave, wetness, standing water.	Severe: wetness, standing water.	Severe: wetness, standing water.	Severe: wetness, standing water.	Severe: wetness, standing water.
Blichton:					
11, 12, 13	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, corrosive.	Severe: wetness.

See footnote at end of table.

TABLE 8.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
Candler:					
14	Severe: cutbanks cave.	Slight	Slight	Slight	Slight.
15	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight.
*16:					
Candler part	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight.
Urban land part.					
Delray:					
17	Severe: cutbanks cave, wetness, standing water.	Severe: wetness, standing water.	Severe: wetness, standing water.	Severe: wetness, standing water.	Severe: wetness, standing water.
EauGallie:					
18	Severe: wetness, cutbanks cave.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Electra Variant:					
19	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Moderate: wetness.
Flemington:					
20, 21, 22	Severe: wetness, too clayey.	Severe: wetness, shrink-swell, low strength.	Severe: wetness, shrink-swell, low strength.	Severe: wetness, shrink-swell, low strength.	Severe: shrink-swell, low strength, wetness.
Floridana:					
23	Severe: cutbanks cave, standing water, wetness.	Severe: standing water, wetness.	Severe: standing water, wetness.	Severe: corrosive, standing water, wetness.	Severe: standing water, wetness.
*24:					
Floridana part	Severe: cutbanks cave, floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: corrosive, floods, wetness.	Severe: floods, wetness.
Basinger part	Severe: cutbanks cave, wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: corrosive, wetness, floods.	Severe: wetness, floods.
Floridana Variant:					
25	Severe: wetness, standing water.	Severe: wetness, standing water.	Severe: wetness, standing water.	Severe: wetness, standing water, shrink-swell.	Severe: wetness, standing water, shrink-swell.
Homosassa:					
26	Severe: floods, depth to rock, wetness.	Severe: floods, wetness.	Severe: floods, depth to rock, wetness.	Severe: floods, wetness, depth to rock.	Severe: floods, wetness.
Hydraquents:					
27	Severe: too clayey, standing water, wetness.	Severe: standing water, wetness, shrink-swell.	Severe: standing water, wetness, shrink-swell.	Severe: standing water, wetness, shrink-swell.	Severe: standing water, wetness, shrink-swell.

See footnote at end of table.

TABLE 8.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
Kanapaha:					
28	Severe: wetness, cutbanks cave.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Kendrick:					
29	Slight	Slight	Slight	Slight	Moderate: low strength.
Lacoochee:					
30	Severe: floods, depth to rock, wetness.	Severe: floods, wetness.	Severe: floods, depth to rock, wetness.	Severe: floods, wetness.	Severe: floods, wetness.
Lake:					
31	Severe: cutbanks cave.	Slight	Slight	Slight	Slight.
Masaryk:					
32	Severe: cutbanks cave.	Slight	Moderate: wetness.	Slight	Slight.
Micanopy:					
33, 34	Severe: wetness.	Severe: wetness, shrink-swell.	Severe: wetness, shrink-swell.	Severe: wetness, shrink-swell.	Severe: shrink-swell, low strength.
Myakka:					
35	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Nobleton:					
36	Severe: wetness.	Moderate: wetness, shrink-swell.	Severe: wetness.	Moderate: wetness, shrink-swell.	Severe: low strength.
Okeelanta:					
*37:					
Okeelanta part	Severe: excess humus, wetness.	Severe: excess humus, low strength, wetness.	Severe: excess humus, low strength, wetness.	Severe: wetness, excess humus, low strength.	Severe: excess humus, low strength, wetness.
Terra Ceia part	Severe: wetness, excess humus.	Severe: wetness, excess humus, low strength.	Severe: wetness, excess humus, low strength.	Severe: wetness, excess humus, low strength.	Severe: wetness, excess humus, low strength.
Paisley:					
38	Severe: wetness, too clayey.	Severe: wetness, shrink-swell, low strength.	Severe: wetness, shrink-swell, low strength.	Severe: wetness, shrink-swell, low strength.	Severe: wetness, shrink-swell, low strength.
Paola:					
39	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight.
Pineda:					
40	Severe: cutbanks cave.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Pits:					
41					
*42:					
Pits part.					
Dumps part.					

See footnote at end of table.

TABLE 8.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
Pomello:					
43	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: corrosive, wetness.	Slight.
Pompano:					
44	Severe: wetness, cutbanks cave.	Severe: wetness.	Severe: wetness.	Severe: wetness, corrosive.	Severe: wetness.
Quartzipsamments, shaped:					
45	Severe: cutbanks cave.	Slight	Slight	Slight	Slight.
Samsula:					
46	Severe: excess humus.	Severe: excess humus, low strength, wetness.	Severe: excess humus, low strength, wetness.	Severe: excess humus, wetness, low strength.	Severe: excess humus, low strength, wetness.
Sparr:					
47	Severe: cutbanks cave.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
48	Severe: cutbanks cave.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Moderate: wetness.
Tavares:					
49	Severe: cutbanks cave.	Slight	Moderate: wetness.	Slight	Slight.
Udalfic Arents:					
*50:					
Udalfic Arents part	Moderate: small stones, wetness.	Slight	Severe: large stones.	Slight	Slight.
Urban land part.					
Wabasso:					
51	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Wauchula:					
52	Severe: wetness, cutbanks cave.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Weekiwachee:					
53	Severe: excess humus, floods, wetness.	Severe: subsides, floods, wetness.	Severe: subsides, floods, wetness.	Severe: subsides, floods, wetness.	Severe: subsides, floods, wetness.
Weekiwachee:					
*54:					
Weekiwachee part	Severe: excess humus, floods, wetness.	Severe: subsides, floods, wetness.	Severe: subsides, floods, wetness.	Severe: subsides, floods, wetness.	Severe: subsides, floods, wetness.
Homosassa part	Severe: floods, depth to rock, wetness.	Severe: floods, wetness.	Severe: floods, depth to rock, wetness.	Severe: floods, wetness, depth to rock.	Severe: floods, wetness.

See footnote at end of table.

TABLE 8.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
Williston:					
55----------------	Severe: depth to rock.	Moderate: shrink-swell, low strength.	Severe: depth to rock.	Moderate: shrink-swell, low strength.	Severe: low strength.
Williston Variant:					
56----------------	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.

*This mapping unit is made up of two or more dominant kinds of soil. See mapping unit description for the composition and behavior of the whole mapping unit.

TABLE 9.--SANITARY FACILITIES

["Depth to rock" and some of the other terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," "good," "fair," and other terms used to rate soils. Absence of an entry means soil was not rated]

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Adamsville:					
1	Severe: wetness.	Severe: wetness, seepage.	Severe: wetness, seepage.	Severe: seepage.	Poor: seepage, wetness.
Anclote:					
2	Severe: wetness.	Severe: wetness, seepage.	Severe: wetness, seepage.	Severe: wetness, seepage.	Poor: wetness, seepage, too sandy.
Arents:					
*3:					
Arents part	Severe: percs slowly, wetness.	Severe: small stones, large stones, excess humus.	Severe: small stones, large stones.	Moderate: wetness.	Poor: small stones, large stones.
Urban land part.					
Aripeka:					
4	Severe: wetness, depth to rock, floods.	Severe: wetness, depth to rock, floods.	Severe: wetness, depth to rock, floods.	Severe: floods, wetness, seepage.	Poor: seepage, thin layer.
*5:					
Aripeka part	Severe: wetness, depth to rock.	Severe: wetness, depth to rock.	Severe: wetness, depth to rock.	Severe: floods, wetness, seepage.	Poor: seepage, thin layer.
Okeelanta part	Severe: wetness.	Severe: wetness, seepage, excess humus.	Severe: excess humus, seepage, wetness.	Severe: wetness, seepage.	Poor: excess humus, seepage, wetness.
Lauderhill part	Severe: depth to rock, wetness.	Severe: depth to rock, wetness, excess humus.	Severe: depth to rock, wetness, excess humus.	Severe: wetness.	Poor: excess humus, seepage, wetness.
Arredondo:					
6, 7	Slight	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: too sandy, seepage.
Astatula:					
8	Slight	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: too sandy.
Basinger:					
9	Severe: wetness.	Severe: seepage, wetness.	Severe: seepage, too sandy, wetness.	Severe: seepage, wetness.	Poor: too sandy, seepage.
10	Severe: wetness, standing water.	Severe: seepage, standing water, wetness.	Severe: seepage, standing water, wetness.	Severe: seepage, standing water, wetness.	Poor: too sandy, seepage.
Blichton:					
11, 12, 13	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness, area reclaim.

See footnote at end of table.

TABLE 9.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Candler:					
14, 15	Slight	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: too sandy.
*16:					
Candler part	Slight	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: too sandy.
Urban land part.					
Delray:					
17	Severe: wetness, standing water.	Severe: wetness, seepage, standing water.	Severe: wetness, seepage, standing water.	Severe: wetness, seepage, standing water.	Poor: too sandy, wetness, seepage.
EauGallie:					
18	Severe: wetness.	Severe: wetness, seepage.	Severe: wetness, seepage, too sandy.	Severe: wetness, seepage.	Poor: too sandy, wetness.
Electra Variant:					
19	Severe: wetness.	Severe: wetness.	Severe: wetness, too sandy.	Severe: wetness.	Poor: too sandy, wetness.
Flemington:					
20	Severe: percs slowly, wetness.	Slight	Severe: wetness, too clayey.	Severe: wetness.	Poor: wetness, too clayey.
21	Severe: percs slowly, wetness.	Moderate: slope.	Severe: wetness, too clayey.	Severe: wetness.	Poor: wetness, too clayey.
22	Severe: percs slowly, wetness.	Severe: slope.	Severe: wetness, too clayey.	Severe: wetness.	Poor: wetness, too clayey.
Floridana:					
23	Severe: standing water, wetness.	Severe: standing water, wetness.	Severe: standing water, wetness.	Severe: standing water, wetness.	Poor: wetness.
*24:					
Floridana part	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Poor: wetness.
Basinger part	Severe: wetness, floods.	Severe: seepage, wetness, floods.	Severe: seepage, floods, wetness.	Severe: seepage, wetness, floods.	Poor: too sandy, seepage.
Floridana Variant:					
25	Severe: wetness, standing water.	Severe: wetness, standing water.	Severe: wetness, standing water.	Severe: wetness, standing water.	Poor: wetness.
Homosassa:					
26	Severe: floods, wetness, depth to rock.	Severe: floods, wetness, depth to rock.	Severe: floods, wetness, depth to rock.	Severe: floods, wetness.	Poor: seepage, wetness.
Hydraquents:					
27	Severe: percs slowly, wetness, standing water.	Severe: standing water.	Severe: wetness, standing water, too clayey.	Severe: standing water, wetness.	Poor: too clayey, wetness.

See footnote at end of table.

TABLE 9.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Kanapaha:					
28	Severe: wetness.	Severe: wetness.	Severe: wetness, too sandy.	Severe: wetness.	Poor: wetness, too sandy, seepage.
Kendrick:					
29	Slight	Moderate: seepage.	Slight	Slight	Good.
Lacoochee:					
30	Severe: floods, wetness, depth to rock.	Severe: floods, wetness, depth to rock.	Severe: floods, wetness, depth to rock.	Severe: floods, wetness, depth to rock.	Poor: thin layer, wetness.
Lake:					
31	Slight	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: too sandy, seepage.
Masaryk:					
32	Moderate: wetness.	Moderate: wetness.	Severe: too sandy.	Moderate: wetness.	Poor: too sandy, seepage.
Micanopy:					
33, 34	Severe: percs slowly, wetness.	Slight	Severe: wetness.	Moderate: wetness.	Fair: too clayey.
Myakka:					
35	Severe: wetness.	Severe: seepage, wetness.	Severe: too sandy, wetness.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
Nobleton:					
36	Severe: percs slowly, wetness.	Moderate: slope.	Severe: wetness.	Moderate: wetness.	Good.
Okeelanta:					
*37:					
Okeelanta part	Severe: wetness.	Severe: wetness, seepage, excess humus.	Severe: excess humus, seepage, wetness.	Severe: wetness, seepage.	Poor: excess humus, seepage, wetness.
Terra Ceia part	Severe: wetness.	Severe: wetness, excess humus, seepage.	Severe: wetness, excess humus, seepage.	Severe: wetness, seepage.	Poor: excess humus, wetness.
Paisley:					
38	Severe: percs slowly, wetness.	Slight	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack.
Paola:					
39	Slight	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: too sandy, seepage.
Pineda:					
40	Severe: wetness.	Severe: seepage, wetness.	Severe: seepage, wetness.	Severe: seepage, wetness.	Fair: thin layer, seepage.
Pits:					
41					

See footnote at end of table.

TABLE 9.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Pits:					
*42:					
Pits part.					
Dumps part.					
Pomello:					
43	Severe: wetness.	Severe: seepage, wetness.	Severe: seepage, too sandy, wetness.	Severe: seepage, wetness.	Poor: too sandy, seepage, wetness.
Pompano:					
44	Severe: wetness.	Severe: wetness, seepage.	Severe: wetness, seepage.	Severe: wetness, seepage.	Poor: wetness, seepage, too sandy.
Quartzipsamments, shaped:					
45	Slight	Severe: seepage.	Severe: seepage.	Severe: seepage.	Poor: too sandy, seepage.
Samsula:					
46	Severe: wetness.	Severe: excess humus, seepage, wetness.	Severe: excess humus, seepage, wetness.	Severe: seepage, wetness.	Poor: excess humus, seepage, wetness.
Sparr:					
47, 48	Severe: wetness.	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Poor: too sandy.
Tavares:					
49	Moderate: wetness.	Severe: seepage.	Severe: wetness, seepage.	Severe: seepage.	Poor: seepage, too sandy.
Udalfic Arents:					
*50:					
Udalfic Arents part	Severe: percs slowly, wetness.	Severe: small stones, large stones.	Severe: small stones, large stones.	Moderate: wetness.	Poor: small stones, large stones.
Urban land part.					
Wabasso:					
51	Severe: wetness.	Severe: seepage, wetness.	Severe: seepage, too sandy, wetness.	Severe: seepage, wetness.	Poor: too sandy, wetness.
Wauchula:					
52	Severe: wetness, seepage.	Severe: wetness, seepage.	Severe: wetness, seepage.	Severe: wetness, seepage.	Poor: too sandy, wetness.
Weekiwachee:					
53	Severe: floods, wetness, depth to rock.	Severe: excess humus, floods, wetness.	Severe: depth to rock, floods, wetness.	Severe: floods, wetness, excess humus.	Poor: excess humus, wetness.
*54:					
Weekiwachee part	Severe: floods, wetness, depth to rock.	Severe: excess humus, floods, wetness.	Severe: depth to rock, floods, wetness.	Severe: floods, wetness, excess humus.	Poor: excess humus, wetness.

See footnote at end of table.

TABLE 9.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Weekiwachee: Homosassa part	Severe: floods, wetness, depth to rock.	Severe: floods, wetness, depth to rock.	Severe: floods, wetness, depth to rock.	Severe: floods, wetness.	Poor: seepage, wetness.
Williston: 55	Severe: percs slowly, depth to rock.	Severe: depth to rock.	Moderate: too clayey, depth to rock.	Slight	Fair: thin layer, too clayey.
Williston Variant: 56	Severe: percs slowly, depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Slight	Poor: thin layer.

*This mapping unit is made up of two or more dominant kinds of soil. See mapping unit description for the composition and behavior of the whole mapping unit.

TABLE 10.--WATER MANAGEMENT

["Seepage" and some of the other terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry means soil was not evaluated]

Soil name and map symbol	Limitations for-- Pond reservoir areas	Limitations for-- Embankments, dikes, and levees	Limitations for-- Aquifer-fed excavated ponds	Features affecting-- Drainage	Features affecting-- Irrigation	Features affecting-- Terraces and diversions
Adamsville:						
1	Severe: seepage.	Severe: seepage, piping.	Moderate: deep to water.	Cutbanks cave	Wetness, seepage.	Not needed.
Anclote:						
2	Severe: seepage.	Severe: piping, seepage.	Slight	Wetness, poor outlets.	Wetness	Not needed.
Arents:						
*3: Arents part	Severe: seepage.	Severe: excess humus, low strength, compressible.	Moderate: deep to water.	Not needed	Slow intake	Not needed.
Urban land part.						
Aripeka:						
4	Severe: seepage.	Severe: thin layer, depth to rock.	Severe: depth to rock.	Depth to rock	Rooting depth, fast intake.	Not needed.
*5: Aripeka part	Severe: seepage.	Severe: thin layer, depth to rock.	Severe: depth to rock.	Depth to rock	Rooting depth, fast intake.	Not needed.
Okeelanta part	Severe: excess humus.	Severe: compressible, excess humus, low strength.	Slight	Excess humus, wetness.	Wetness	Not needed.
Lauderhill part	Severe: depth to rock, excess humus.	Severe: excess humus, low strength, shrink-swell.	Severe: depth to rock.	Depth to rock, excess humus, wetness.	Wetness	Not needed.
Arredondo:						
6, 7	Severe: seepage.	Severe: piping, seepage.	Severe: no water.	Not needed	Droughty, fast intake.	Not needed.
Astatula:						
8	Severe: seepage.	Severe: seepage, unstable fill, piping.	Severe: no water.	Not needed	Droughty, fast intake, seepage.	Not needed.
Basinger:						
9	Severe: seepage.	Severe: seepage, piping, unstable fill.	Slight	Cutbanks cave, wetness.	Wetness	Not needed.
10	Severe: seepage.	Severe: seepage, piping, unstable fill.	Slight	Cutbanks cave, wetness, poor outlets.	Wetness	Not needed.
Blichton:						
11, 12	Moderate: seepage.	Slight	Moderate: deep to water.	Wetness	Wetness	Not needed.
13	Moderate: seepage.	Slight	Moderate: deep to water.	Wetness, slope.	Wetness	Wetness, slope.

See footnote at end of table.

TABLE 10.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions
Candler: 14, 15	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Not needed	Droughty, seepage, fast intake.	Not needed.
*16: Candler part	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Not needed	Droughty, seepage, fast intake.	Not needed.
Urban land part.						
Delray: 17	Severe: seepage.	Moderate: piping, seepage.	Slight	Cutbanks cave, poor outlets.	Wetness, floods.	Not needed.
EauGallie: 18	Severe: seepage.	Severe: seepage, unstable fill.	Moderate: deep to water.	Cutbanks cave, wetness.	Fast intake, wetness.	Not needed.
Electra Variant: 19	Severe: seepage.	Severe: seepage, unstable fill, piping.	Moderate: deep to water.	Cutbanks cave	Fast intake, droughty.	Not needed.
Flemington: 20	Slight	Moderate: unstable fill, compressible, hard to pack.	Severe: slow refill.	Percs slowly, wetness.	Wetness, percs slowly.	Not needed.
21	Slight	Moderate: unstable fill, compressible, hard to pack.	Severe: slow refill.	Percs slowly, wetness.	Wetness, percs slowly.	Slope, wetness, percs slowly.
22	Slight	Moderate: unstable fill, compressible, hard to pack.	Severe: slow refill.	Slope, percs slowly, wetness.	Slope, wetness, percs slowly.	Slope, wetness, percs slowly.
Floridana: 23	Moderate: seepage.	Severe: seepage, piping, unstable fill.	Slight	Floods, wetness, cutbanks cave.	Floods, wetness.	Not needed.
*24: Floridana part	Moderate: seepage.	Severe: seepage, piping, unstable fill.	Slight	Floods, wetness, cutbanks cave.	Floods, wetness.	Not needed.
Basinger part	Severe: seepage.	Severe: seepage, piping, unstable fill.	Slight	Cutbanks cave, wetness, poor outlets.	Wetness	Not needed.
Floridana Variant: 25	Slight	Moderate: unstable fill, piping.	Moderate: slow refill.	Wetness, floods, percs slowly.	Wetness, floods.	Not needed.

See footnote at end of table.

TABLE 10.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions
Homosassa: 26	Severe: seepage, depth to rock.	Severe: large stones, seepage, piping.	Severe: depth to rock, salty water.	Depth to rock, floods, wetness.	Excess salt, floods, wetness.	Not needed.
Hydraquents: 27	Slight	Severe: shrink-swell, erodes easily, hard to pack.	Severe: slow refill.	Percs slowly, floods.	Excess lime, slow intake, percs slowly.	Not needed.
Kanapaha: 28	Slight	Severe: piping.	Moderate: deep to water, slow refill.	Cutbanks cave	Wetness, fast intake.	Not needed.
Kendrick: 29	Moderate: seepage.	Slight	Severe: no water.	Not needed	Favorable	Piping, slope, too sandy.
Lacoochee: 30	Severe: seepage, depth to rock.	Severe: depth to rock, seepage, piping.	Severe: depth to rock, salty water.	Excess salt, floods, depth to rock.	Excess salt, floods, wetness.	Not needed.
Lake: 31	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Not needed	Fast intake, too sandy.	Not needed.
Masaryk: 32	Severe: seepage.	Severe: piping, seepage.	Severe: no water.	Not needed	Droughty, seepage, fast intake.	Not needed.
Micanopy: 33, 34	Slight	Moderate: unstable fill, low strength.	Severe: deep to water.	Percs slowly	Wetness	Not needed.
Myakka: 35	Severe: seepage.	Severe: seepage, piping, erodes easily.	Moderate: deep to water.	Cutbanks cave, wetness.	Wetness	Not needed.
Nobleton: 36	Moderate: seepage.	Slight	Severe: deep to water.	Wetness	Wetness	Not needed.
Okeelanta: *37: Okeelanta part	Severe: excess humus.	Severe: compressible, excess humus, low strength.	Slight	Excess humus, wetness.	Wetness	Not needed.
Terra Ceia part	Severe: excess humus, seepage.	Severe: excess humus, seepage, unstable fill.	Slight	Wetness, excess humus.	Wetness	Not needed.
Paisley: 38	Slight	Severe: shrink-swell, low strength, hard to pack.	Slight	Percs slowly, wetness.	Wetness, percs slowly.	Not needed.

See footnote at end of table.

TABLE 10.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions
Paola:						
39	Severe: seepage.	Severe: seepage, piping, unstable fill.	Severe: no water.	Not needed	Droughty, too sandy, fast intake.	Not needed.
Pineda:						
40	Severe: seepage.	Moderate: seepage, thin layer, unstable fill.	Moderate: deep to water.	Cutbanks cave	Wetness	Not needed.
Pits:						
41						
*42:						
Pits part.						
Dumps part.						
Pomello:						
43	Severe: seepage.	Severe: seepage, piping, unstable fill.	Moderate: deep to water.	Not needed	Fast intake, droughty.	Not needed.
Pompano:						
44	Severe: seepage.	Severe: seepage, piping.	Slight	Wetness, cutbanks cave.	Wetness	Not needed.
Quartzipsamments, shaped:						
45	Severe: seepage.	Severe: seepage, piping, erodes easily.	Severe: no water.	Not needed	Droughty, too sandy.	Not needed.
Samsula:						
46	Severe: excess humus, seepage.	Severe: excess humus, compressible, low strength.	Slight	Excess humus, poor outlets, wetness.	Favorable	Not needed.
Sparr:						
47	Moderate: seepage.	Moderate: piping, unstable fill.	Severe: deep to water.	Cutbanks cave	Fast intake	Not needed.
48	Moderate: seepage.	Moderate: piping, unstable fill.	Severe: deep to water.	Cutbanks cave, slope.	Fast intake, erodes easily.	Slope, piping.
Tavares:						
49	Severe: seepage.	Severe: unstable fill, piping.	Severe: deep to water.	Cutbanks cave	Seepage, fast intake.	Too sandy.
Udalfic Arents:						
*50:						
Udalfic Arents part	Severe: seepage.	Moderate: seepage.	Moderate: deep to water.	Not needed	Slow intake	Not needed.
Urban land part.						

See footnote at end of table.

TABLE 10.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions
Wabasso: 51	Severe: seepage.	Severe: seepage, piping, unstable fill.	Slight	Cutbanks cave, wetness.	Wetness	Not needed.
Wauchula: 52	Severe: seepage.	Severe: seepage, unstable fill.	Moderate: deep to water.	Cutbanks cave, wetness.	Fast intake, wetness.	Not needed.
Weekiwachee: 53	Severe: seepage.	Severe: seepage, excess humus.	Severe: salty water, subsides.	Pitting, floods, wetness.	Salty water, floods.	Not needed.
*54: Weekiwachee part	Severe: seepage.	Severe: seepage, excess humus.	Severe: salty water, subsides.	Pitting, floods, wetness.	Salty water, floods.	Not needed.
Homosassa part	Severe: seepage, depth to rock.	Severe: large stones, seepage, piping.	Severe: depth to rock, salty water.	Depth to rock, floods, wetness.	Excess salt, floods, wetness.	Not needed.
Williston: 55	Severe: depth to rock.	Moderate: thin layer, low strength.	Severe: no water.	Not needed	Favorable	Not needed.
Williston Variant: 56	Severe: depth to rock.	Severe: thin layer.	Severe: no water.	Not needed	Rooting depth	Rooting depth.

*This mapping unit is made up of two or more dominant kinds of soil. See mapping unit description for the composition and behavior of the whole mapping unit.

TABLE 11.--CONSTRUCTION MATERIALS

["Shrink-swell" and some of the other terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "good," "fair," "poor," and "unsuited." Absence of an entry means soil was not rated]

Soil name and map symbol	Roadfill	Sand	Topsoil
Adamsville:			
1	Good	Fair: excess fines.	Poor: too sandy.
Anclote:			
2	Poor: wetness, area reclaim.	Fair: excess humus.	Poor: wetness.
Arents:			
*3:			
Arents part	Poor: excess humus.	Unsuited	Poor: small stones.
Urban land part.			
Aripeka:			
4	Poor: thin layer.	Poor: excess fines.	Poor: thin layer, too sandy.
*5:			
Aripeka part	Poor: thin layer.	Poor: excess fines.	Poor: thin layer, too sandy.
Okeelanta part	Poor: excess humus, low strength, wetness.	Unsuited	Poor: wetness.
Lauderhill part	Poor: excess humus, low strength, wetness.	Unsuited	Poor: wetness.
Arredondo:			
6, 7	Good	Fair: excess fines.	Poor: too sandy.
Astatula:			
8	Good	Good	Poor: too sandy.
Basinger:			
9, 10	Poor: wetness.	Fair: excess fines.	Poor: too sandy.
Blichton:			
11, 12, 13	Poor: wetness.	Unsuited: excess fines.	Poor: too sandy.
Candler:			
14, 15	Good	Good	Poor: too sandy.
*16:			
Candler part	Good	Good	Poor: too sandy.
Urban land part.			
Delray:			
17	Poor: wetness.	Fair: excess fines.	Poor: too sandy, wetness.

See footnote at end of table.

TABLE 11.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Topsoil
EauGallie:			
18	Poor: wetness.	Fair: excess fines.	Poor: too sandy, wetness.
Electra Variant:			
19	Fair: wetness.	Fair: excess fines.	Poor: too sandy.
Flemington:			
20, 21, 22	Poor: shrink-swell, low strength, wetness.	Unsuited: excess fines.	Poor: thin layer, wetness.
Floridana:			
23	Poor: wetness.	Poor: excess fines.	Poor: too sandy, wetness.
*24:			
Floridana part	Poor: wetness.	Poor: excess fines.	Poor: too sandy, wetness.
Basinger part	Poor: wetness.	Fair: excess fines.	Poor: too sandy.
Floridana Variant:			
25	Fair: wetness, shrink-swell.	Poor: excess fines.	Poor: wetness.
Homosassa:			
26	Poor: wetness.	Unsuited	Poor: excess salt, wetness, thin layer.
Hydraquents:			
27	Poor: shrink-swell, wetness.	Unsuited	Poor: excess lime, wetness, too clayey.
Kanapaha:			
28	Good	Fair: excess fines.	Poor: too sandy, wetness.
Kendrick:			
29	Fair: low strength.	Unsuited: excess fines.	Poor: too sandy.
Lacoochee:			
30	Poor: wetness.	Unsuited	Poor: excess salt, wetness, thin layer.
Lake:			
31	Good	Fair: excess fines.	Poor: too sandy.
Masaryk:			
32	Good	Poor: excess fines.	Poor: too sandy.
Micanopy:			
33, 34	Poor: shrink-swell, low strength.	Unsuited	Poor: too sandy.

See footnote at end of table.

TABLE 11.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Topsoil
Myakka:			
35	Poor: wetness.	Fair: excess fines.	Poor: too sandy.
Nobleton:			
36	Fair: low strength.	Poor: excess fines.	Poor: too sandy.
Okeelanta:			
*37:			
Okeelanta part	Poor: excess humus, low strength, wetness.	Unsuited	Poor: wetness.
Terra Ceia part	Poor: wetness, excess humus, low strength.	Unsuited	Poor: wetness.
Paisley:			
38	Poor: shrink-swell, low strength, wetness.	Unsuited: excess fines.	Poor: too sandy, thin layer, wetness.
Paola:			
39	Good	Good	Poor: too sandy.
Pineda:			
40	Poor: wetness.	Fair: excess fines.	Poor: too sandy, wetness.
Pits:			
41			
*42:			
Pits part.			
Dumps part.			
Pomello:			
43	Good	Fair: excess fines.	Poor: too sandy.
Pompano:			
44	Poor: wetness.	Good	Poor: too sandy, wetness.
Quartzipsamments, shaped:			
45	Good	Good	Poor: too sandy.
Samsula:			
46	Poor: excess humus, low strength, wetness.	Unsuited	Poor: wetness.
Sparr:			
47, 48	Good	Fair: excess fines.	Poor: too sandy.
Tavares:			
49	Good	Good	Poor: too sandy.

See footnote at end of table.

TABLE 11.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Topsoil
Udalfic Arents:			
*50:			
Udalfic Arents part	Good	Unsuited	Poor: small stones.
Urban land part.			
Wabasso:			
51	Poor: wetness.	Poor: excess fines.	Poor: too sandy, wetness.
Wauchula:			
52	Poor: wetness.	Poor: excess fines.	Poor: too sandy.
Weekiwachee:			
53	Poor: excess humus, low strength, wetness.	Unsuited	Poor: excess salt, wetness.
*54:			
Weekiwachee part	Poor: excess humus, low strength, wetness.	Unsuited	Poor: excess salt, wetness.
Homosassa part	Poor: wetness.	Unsuited	Poor: excess salt, wetness, thin layer.
Williston:			
55	Poor: low strength.	Unsuited	Poor: too clayey.
Williston Variant:			
56	Poor: low strength.	Unsuited	Poor: too clayey.

*This mapping unit is made up of two or more dominant kinds of soil. See mapping unit description for the composition and behavior of the whole mapping unit.

TABLE 12.--RECREATIONAL DEVELOPMENT

["Shrink-swell" and some of the other terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry means soil was not rated]

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails
Adamsville:				
1	Moderate: too sandy, wetness.	Moderate: too sandy, wetness.	Severe: too sandy.	Moderate: too sandy, wetness.
Anclote:				
2	Severe: wetness, standing water.	Severe: wetness, standing water.	Severe: wetness, standing water.	Severe: wetness, standing water.
Arents:				
*3:				
Arents part	Severe: percs slowly.	Slight	Slight	Slight.
Urban land part.				
Aripeka:				
4	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.
*5:				
Aripeka part	Moderate: wetness.	Moderate: wetness.	Moderate: floods, wetness.	Moderate: wetness.
Okeelanta part	Severe: excess humus, wetness.	Severe: excess humus, wetness.	Severe: excess humus, wetness.	Severe: excess humus, wetness.
Lauderhill part	Severe: excess humus, wetness.	Severe: excess humus, wetness.	Severe: depth to rock, wetness, excess humus.	Severe: excess humus, wetness.
Arredondo:				
6	Moderate: too sandy.	Moderate: too sandy.	Severe: too sandy.	Moderate: too sandy.
7	Moderate: too sandy.	Moderate: too sandy.	Severe: too sandy, slope.	Moderate: too sandy.
Astatula:				
8	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.
Basinger:				
9	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
10	Severe: wetness, standing water.	Severe: wetness, standing water.	Severe: wetness, standing water.	Severe: wetness, standing water.
Blichton:				
11, 12	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
13	Severe: wetness.	Severe: wetness.	Severe: wetness, slope.	Severe: wetness.

See footnote at end of table.

TABLE 12.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails
Candler:				
14	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.
15	Severe: too sandy.	Severe: too sandy.	Severe: too sandy, slope.	Severe: too sandy.
*16:				
Candler part	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.
Urban land part.				
Delray:				
17	Severe: wetness, standing water.	Severe: wetness, standing water.	Severe: wetness, standing water.	Severe: wetness, standing water.
EauGallie:				
18	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Electra Variant:				
19	Moderate: too sandy.	Moderate: too sandy.	Severe: too sandy, soil blowing.	Moderate: too sandy.
Flemington:				
20, 21	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
22	Severe: wetness.	Severe: wetness.	Severe: slope, wetness.	Severe: wetness.
Floridana:				
23	Severe: standing water, wetness.	Severe: standing water, wetness.	Severe: standing water, wetness.	Severe: standing water, wetness.
*24:				
Floridana part	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.
Basinger part	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Floridana Variant:				
25	Severe: wetness, standing water.	Severe: wetness, standing water.	Severe: wetness, standing water.	Severe: wetness, standing water.
Homosassa:				
26	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.
Hydraquents:				
27	Severe: standing water, wetness, too clayey.	Severe: standing water, wetness, too clayey.	Severe: standing water, wetness, too clayey.	Severe: standing water, wetness, too clayey.
Kanapaha:				
28	Moderate: too sandy.	Moderate: too sandy.	Severe: too sandy, soil blowing.	Moderate: too sandy.

See footnote at end of table.

TABLE 12.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails
Kendrick:				
29	Moderate: too sandy.	Moderate: too sandy.	Severe: too sandy.	Moderate: too sandy.
Lacoochee:				
30	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness, depth to rock.	Severe: floods, wetness.
Lake:				
31	Moderate: too sandy.	Moderate: too sandy.	Severe: too sandy.	Moderate: too sandy.
Masaryk:				
32	Moderate: too sandy.	Moderate: too sandy.	Severe: too sandy.	Moderate: too sandy.
Micanopy:				
33	Slight	Slight	Slight	Slight.
34	Slight	Slight	Moderate: slope.	Slight.
Myakka:				
35	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Nobleton:				
36	Moderate: wetness, too sandy.	Moderate: wetness, too sandy.	Severe: too sandy.	Moderate: too sandy.
Okeelanta:				
*37:				
Okeelanta part	Severe: excess humus, wetness.	Severe: excess humus, wetness.	Severe: excess humus, wetness.	Severe: excess humus, wetness.
Terra Ceia part	Severe: wetness, excess humus.	Severe: wetness, excess humus.	Severe: wetness, excess humus.	Severe: wetness, excess humus.
Paisley:				
38	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Paola:				
39	Severe: too sandy.	Severe: too sandy.	Severe: too sandy, soil blowing.	Severe: too sandy.
Pineda:				
40	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Pits:				
41				
*42:				
Pits part.				
Dumps part.				
Pomello:				
43	Severe: too sandy.	Severe: too sandy.	Severe: too sandy, slope.	Severe: too sandy.

See footnote at end of table.

TABLE 12.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails
Pompano:				
44	Severe: wetness.	Severe: wetness.	Severe: wetness, too sandy.	Severe: wetness.
Quartzipsamments, shaped:				
45	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.
Samsula:				
46	Severe: excess humus, wetness.	Severe: excess humus, wetness.	Severe: excess humus, wetness.	Severe: excess humus, wetness.
Sparr:				
47	Moderate: too sandy.	Moderate: too sandy.	Severe: too sandy.	Moderate: too sandy.
48	Moderate: too sandy.	Moderate: too sandy.	Severe: too sandy, slope.	Moderate: too sandy.
Tavares:				
49	Moderate: too sandy.	Moderate: too sandy.	Severe: too sandy.	Moderate: too sandy.
Udalfic Arents:				
*50:				
Udalfic Arents part	Severe: percs slowly.	Slight	Slight	Slight.
Urban land part.				
Wabasso:				
51	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Wauchula:				
52	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Weekiwachee:				
53	Severe: floods, excess humus, wetness.	Severe: floods, excess humus, wetness.	Severe: floods, excess humus, wetness.	Severe: floods, excess humus, wetness.
*54:				
Weekiwachee part	Severe: floods, excess humus, wetness.	Severe: floods, excess humus, wetness.	Severe: floods, excess humus, wetness.	Severe: floods, excess humus, wetness.
Homosassa part	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.
Williston:				
55	Slight	Slight	Slight	Slight.
Williston Variant:				
56	Moderate: percs slowly.	Slight	Moderate: percs slowly, slope.	Slight.

*This mapping unit is made up of two or more dominant kinds of soil. See mapping unit description for the composition and behavior of the whole mapping unit.

TABLE 13.--WILDLIFE HABITAT POTENTIALS

[See text for definitions of "good," "fair," "poor," and "very poor." Absence of an entry indicates the soil was not rated]

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Adamsville: 1	Poor	Poor	Fair	Fair	Fair	Poor	Poor	Poor	Fair	Poor.
Anclote: 2	Very poor.	Poor	Poor	Poor	Very poor.	Good	Good	Poor	Poor	Good.
Arents: *3: Arents part	Poor	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Urban land part.										
Aripeka: 4	Poor	Fair	Fair	Poor	Fair	Poor	Poor	Fair	Fair	Poor.
*5: Aripeka part	Poor	Fair	Fair	Poor	Fair	Poor	Poor	Fair	Fair	Poor.
Okeelanta part	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Good	Good	Very poor.	---	Good.
Lauderhill part	Very poor.	Poor	Poor	Poor	---	Good	Good	Poor	Poor	Good.
Arredondo: 6, 7	Poor	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Astatula: 8	Poor	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Basinger: 9	Poor	Poor	Fair	Poor	Poor	Good	Fair	Poor	Poor	Fair.
10	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Good	Good	Very poor.	Very poor.	Good.
Blichton: 11	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
12, 13	Poor	Fair	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
Candler: 14, 15	Poor	Fair	Fair	Poor	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
*16: Candler part	Poor	Fair	Fair	Poor	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Urban land part.										
Delray: 17	Very poor.	Poor	Poor	Poor	Very poor.	Good	Good	Poor	Poor	Good.
EauGallie: 18	Poor	Poor	Poor	Poor	Poor	Poor	Very poor.	Poor	Poor	Poor.

See footnote at end of table.

TABLE 13.--WILDLIFE HABITAT POTENTIALS--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Electra Variant: 19	Poor	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Flemington: 20	Poor	Good	Fair	Good	Good	Fair	Good	Fair	Good	Fair.
21, 22	Poor	Good	Fair	Good	Good	Fair	Poor	Fair	Good	Poor.
Floridana: 23	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Good	Good	Very poor.	Very poor.	Good.
*24: Floridana part	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Good	Good	Very poor.	Very poor.	Good.
Basinger part	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Good	Good	Very poor.	Very poor.	Good.
Floridana Variant: 25	Very poor.	Poor	Fair	Poor	Poor	Good	Good	Poor	Poor	Good.
Homosassa: 26	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor.
Hydraquents: 27	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Fair	Good	Very poor.	Very poor.	Fair.
Kanapaha: 28	Poor	Fair	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Poor.
Kendrick: 29	Poor	Fair	Good	Fair	Good	Poor	Very poor.	Fair	Good	Very poor.
Lacoochee: 30	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor.
Lake: 31	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Masaryk: 32	Poor	Fair	Fair	Poor	Fair	Very poor.	Very poor.	Fair	Poor	Very poor.
Micanopy: 33	Fair	Fair	Good	Good	Good	Poor	Fair	Fair	Good	Poor.
34	Fair	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
Myakka: 35	Poor	Fair	Good	Poor	Fair	Fair	Poor	Fair	Fair	Poor.
Nobleton: 36	Fair	Fair	Good	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.
Okeelanta: *37: Okeelanta part	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Good	Good	Very poor.	---	Good.

See footnote at end of table.

TABLE 13.--WILDLIFE HABITAT POTENTIALS--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Okeelanta:										
Terra Ceia part	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
Paisley:										
38	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
Paola:										
39	Poor	Poor	Fair	Very poor.	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Pineda:										
40	Poor	Fair	Fair	Poor	Poor	Good	Fair	Fair	Poor	Fair.
Pits:										
41.										
*42:										
Pits part.										
Dumps part.										
Pomello:										
43	Poor	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Pompano:										
44	Poor	Fair	Poor	Poor	Poor	Fair	Fair	Poor	Poor	Fair.
Quartzipsamments, shaped:										
45	Poor	Poor	Poor	Very poor.	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Samsula:										
46	Very poor.	Very poor.	Poor	Fair	Very poor.	Good	Good	Very poor.	Poor	Good.
Sparr:										
47, 48	Poor	Fair	Good	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.
Tavares:										
49	Poor	Fair	Fair	Poor	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Udalfic Arents:										
*50:										
Udalfic Arents part	Poor	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Urban land part.										
Wabasso:										
51	Poor	Poor	Poor	Poor	Good	Fair	Poor	Poor	Fair	Poor.
Wauchula:										
52	Poor	Poor	Poor	Poor	Poor	Poor	Very poor.	Poor	Poor	Poor.
Weekiwachee:										
53	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor.
*54:										
Weekiwachee part	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor.

See footnote at end of table.

TABLE 13.--WILDLIFE HABITAT POTENTIALS--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Weekiwachee: Homosassa part--	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor.
Williston: 55------------------	Fair	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
Williston Variant: 56------------------	Poor	Fair	Fair	Poor	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.

*This mapping unit is made up of two or more dominant kinds of soil. See mapping unit description for the composition and behavior of the whole mapping unit.

TABLE 14.--ENGINEERING PROPERTIES AND CLASSIFICATIONS

[The symbol < means less than; > means greater than. Absence of an entry means data were not estimated]

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag- ments > 3 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
Adamsville:											
1	0-3	Fine sand	SP-SM	A-3, A-2-4	0	100	100	90-100	5-12	---	NP
	3-80	Fine sand, sand	SP-SM	A-3, A-2-4	0	100	100	90-100	5-12	---	NP
Anclote:											
2	0-14	Fine sand	SP, SP-SM	A-3, A-2-4	0	100	95-100	85-100	2-12	---	NP
	14-80	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	95-100	85-100	2-12	---	NP
Arents:											
*3:											
Arents part	0-55	Variable	---	---	---	---	---	---	---	---	---
	55-62	Muck	Pt	---	---	---	---	---	---	---	---
	62-70	Fine sand	SP, SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-20	---	NP
	70-80	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Urban land part.											
Aripeka:											
4	0-13	Fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-20	---	NP
	13-21	Cobbly fine sandy loam, cobbly sandy clay loam.	SM, SM-SC	A-2-4	25-50	85-95	80-90	70-80	12-35	<40	NP-15
	21-29	Weathered bedrock.	---	---	---	---	---	---	---	---	---
	29	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
*5:											
Aripeka part	0-13	Fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-20	---	NP
	13-21	Cobbly fine sandy loam, cobbly sandy clay loam.	SM, SM-SC	A-2-4	25-50	85-95	80-90	70-80	12-35	<40	NP-15
	21-29	Weathered bedrock.	---	---	---	---	---	---	---	---	---
	29	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Okeelanta part	0-27	Muck	Pt	A-8	0	---	---	---	---	---	---
	27-60	Fine sand, sand, loamy sand.	SP, SP-SM, SM	A-3, A-2-4	0	100	85-100	80-95	2-15	---	NP
Lauderhill part	0-27	Muck	Pt	---	0	---	---	---	---	---	---
	27	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Arredondo:											
6, 7	0-62	Fine sand	SP-SM, SM	A-2-4, A-3	0	95-100	90-100	75-95	5-15	---	NP
	62-69	Loamy sand, loamy fine sand, sandy loam.	SM, SM-SC	A-2-4	0	95-100	90-100	75-95	13-25	<25	NP-7
	69-99	Sandy clay loam, sandy clay	SC	A-2-6, A-6	0	95-100	90-100	85-95	25-45	25-40	11-20

See footnote at end of table.

TABLE 14.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
Astatula:											
8------------------	0-85	Fine sand--------	SP, SP-SM	A-3	0	100	100	75-99	1-7	---	NP
Basinger:											
9, 10--------------	0-80	Fine sand--------	SP, SP-SM	A-3, A-2-4	0	100	100	90-100	2-12	<40	NP-3
Blichton:											
11, 12, 13---------	0-28	Loamy fine sand	SP-SM, SM	A-2-4, A-3	0	95-100	95-100	85-98	8-25	---	NP
	28-34	Sandy clay loam	SC	A-2-4, A-6	0	95-100	95-100	85-98	30-45	25-40	8-20
	34-63	Sandy clay loam, sandy clay.	SC	A-6	0	95-100	95-100	85-98	36-45	30-40	15-24
	63-75	Sandy clay, clay	SC, CL, CH	A-6, A-7	0	95-100	90-100	80-95	40-85	30-75	15-55
Candler:											
14, 15-------------	0-48	Fine sand--------	SP, SP-SM	A-3	0	100	95-100	75-100	2-8	---	NP
	48-80	Sand, fine sand	SP-SM	A-3, A-2-4	0	100	95-100	75-100	5-12	---	NP
*16:											
Candler part-----	0-48	Fine sand--------	SP, SP-SM	A-3	0	100	95-100	75-100	2-8	---	NP
	48-80	Sand, fine sand	SP-SM	A-3, A-2-4	0	100	95-100	75-100	5-12	---	NP
Urban land part.											
Delray:											
17-----------------	0-13	Fine sand--------	SP-SM, SM	A-3, A-2-4	0	100	100	95-100	5-20	<20	NP-5
	13-55	Fine sand--------	SP-SM	A-3, A-2-4	0	100	100	95-100	5-12	---	NP
	55-80	Fine sandy loam, sandy clay loam	SM, SM-SC, SC	A-2-4, A-2-6	0	100	100	95-100	20-35	<40	NP-15
EauGallie:											
18-----------------	0-17	Fine sand--------	SP	A-3	0	100	100	80-98	2-5	---	NP
	17-36	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	80-98	5-20	---	NP
	36-72	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	80-98	2-12	---	NP
	72-80	Sandy loam, fine sandy loam, sandy clay loam.	SM, SM-SC, SC	A-2-4, A-2-6	0	100	100	80-98	20-35	<40	NP-20
Electra Variant:											
19-----------------	0-24	Fine sand--------	SP, SP-SM	A-3	0	100	100	80-99	3-10	---	NP
	24-30	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	80-99	8-15	---	NP
	30-53	Sand, fine sand	SP-SM	A-3, A-2-4	0	100	100	80-99	5-12	---	NP
	53-80	Sandy loam, fine sandy loam, sandy clay loam.	SM-SC, SC	A-2-4, A-2-6	0	100	100	80-99	20-35	20-30	5-13
Flemington:											
20, 21, 22---------	0-5	Fine sandy loam	SM	A-2-4	0	95-100	95-100	65-95	15-30	---	NP
	5-36	Sandy clay, clay	SC, CH, CL	A-7	0	95-100	95-100	65-95	45-75	41-65	20-40
	36-66	Sandy clay, clay	CH, MH, CL	A-7	0	95-100	95-100	65-95	51-80	45-85	25-55
	66-81	Clay-------------	CH, MH	A-7	0	95-100	95-100	65-95	65-85	55-100	40-65

See footnote at end of table.

TABLE 14.---ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
Floridana:											
23----------------	0-16	Fine sand--------	SP-SM, SM	A-3, A-2-4	0	100	100	80-90	5-15	<40	NP
	16-27	Fine sand, sand	SP, SP-SM	A-3	0	100	100	80-90	2-10	<40	NP
	27-80	Sandy loam, sandy clay loam.	SM-SC, SC	A-2-4, A-2-6	0	100	100	85-95	20-35	20-30	5-20
*24:											
Floridana part--	0-16	Fine sand--------	SP-SM, SM	A-3, A-2-4	0	100	100	80-90	5-15	<40	NP
	16-27	Fine sand, sand	SP, SP-SM	A-3	0	100	100	80-90	2-10	<40	NP
	27-80	Sandy loam, sandy clay loam.	SM-SC, SC	A-2-4, A-2-6	0	100	100	85-95	20-35	20-30	5-20
Basinger part---	0-80	Fine sand--------	SP, SP-SM	A-3, A-2-4	0	100	100	90-100	2-12	<40	NP-3
Floridana Variant:											
25----------------	0-8	Loamy fine sand	SM	A-2-4	0	100	100	85-99	13-35	---	NP
	8-22	Fine sand, loamy fine sand.	SM	A-2-4	0	100	100	85-99	13-35	---	NP
	22-42	Fine sandy loam, sandy clay loam.	SC	A-2-4, A-2-6, A-4, A-6	0	100	100	85-99	25-45	20-40	8-20
	42-59	Loamy sand, fine sandy loam.	SM	A-2-4, A-2-6, A-4	0	100	100	85-99	13-40	<40	NP-15
	59-80	Sandy clay, clay	SC, CL, CH	A-4, A-6, A-7	0	100	100	85-99	40-85	20-60	8-40
Homosassa:											
26----------------	0-8	Mucky fine sandy loam.	SM, SM-SC	A-2-4	0	100	100	85-95	13-35	<28	NP-7
	8-15	Fine sand, loamy fine sand.	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-25	---	NP
	15-27	Fine sand, loamy fine sand.	SP-SM, SM	A-3, A-2-4	0	85-95	85-95	75-85	5-25	---	NP
	27-33	Weathered bedrock.	---	---	---	---	---	---	---	---	---
	33	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Hydraquents:											
27----------------	0-80	Silty clay-------	MH, CH	A-7	0	100	100	90-100	70-95	41-70	15-40
Kanapaha:											
28----------------	0-50	Fine sand--------	SP-SM	A-3, A-2-4	0	95-100	90-100	75-95	5-12	---	NP
	50-56	Sandy loam, fine sandy loam, sandy clay loam.	SM-SC, SC	A-2-4	0	95-100	90-100	80-95	20-35	20-30	4-10
	56-65	Sandy clay loam, sandy clay, sandy loam.	SC, SM-SC	A-2-4, A-2-6, A-4, A-6	0	95-100	90-100	80-95	25-45	19-40	6-20
Kendrick:											
29----------------	0-28	Fine sand--------	SP-SM	A-3, A-2-4	0	95-100	95-100	75-95	5-12	---	NP
	28-34	Sandy clay loam, fine sandy loam.	SC, SM-SC	A-2-6, A-2-4	0	95-100	90-100	85-95	25-35	20-35	4-18
	34-63	Sandy clay loam, sandy clay.	SC	A-2-6, A-6	0	95-100	90-100	85-95	25-45	25-40	11-20
	63-80	Sandy clay loam, sandy loam.	SC, SM-SC	A-2-6, A-2-4	0	95-100	90-100	85-95	25-35	20-35	4-18

See footnote at end of table.

TABLE 14.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
Lacoochee:											
30----------------	0-6	Fine sandy loam	SM, SM-SC, SC	A-4	0	100	100	85-95	36-40	<28	NP-7
	6-15	Loamy fine sand	SM, SP-SM	A-2-4, A-3	0	100	100	85-95	5-25	---	NP
	15-26	Weathered bedrock.	---	---	---	---	---	---	---	---	---
	26	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Lake:											
31----------------	0-82	Fine sand, sand	SP-SM	A-3, A-2-4	0	100	100	85-95	5-12	---	NP
Masaryk:											
32----------------	0-70	Very fine sand	SM	A-2-4	0	100	100	95-100	25-35	---	NP
	70-90	Very fine sandy loam, sandy clay loam.	SM, SM-SC, SC	A-2-4, A-4	0	100	100	95-100	30-50	18-30	4-10
Micanopy:											
33, 34------------	0-18	Loamy fine sand	SM, SP-SM	A-2-4	0	95-100	95-100	90-100	11-25	---	NP
	18-25	Sandy clay, sandy clay loam.	SC	A-2, A-6, A-7	0	95-100	95-100	90-100	30-50	25-45	12-25
	25-62	Sandy clay, clay	CH	A-7	0	95-100	95-100	90-100	51-70	51-75	25-45
Myakka:											
35----------------	0-23	Fine sand--------	SP, SP-SM	A-3	0	100	100	85-100	2-10	---	NP
	23-37	Sand, fine sand	SM, SP-SM	A-3, A-2-4	0	100	100	85-100	5-20	---	NP
	37-80	Sand, fine sand	SP, SP-SM	A-3	0	100	100	85-100	2-8	---	NP
Nobleton:											
36----------------	0-33	Fine sand--------	SP-SM, SM	A-2-4	0	95-100	95-100	90-98	8-20	---	NP
	33-37	Sandy clay loam, sandy clay.	SC	A-2-6, A-6	0	95-100	95-100	90-98	25-45	25-40	11-20
	37-60	Sandy clay-------	SC, CL, CH	A-6, A-7	0	95-100	95-100	90-98	40-55	30-55	16-35
	60-80	Sandy clay loam, sandy clay.	SC	A-2-6, A-6	0	95-100	95-100	90-98	25-45	25-40	11-20
	80-85	Sandy clay, sandy clay loam, fine sandy loam.	SM, SM-SC, SC	A-2-4, A-2-6, A-6	0	95-100	95-100	90-98	25-45	11-40	4-20
Okeelanta:											
*37:											
Okeelanta part--	0-27	Muck-------------	Pt	A-8	0	---	---	---	---	---	---
	27-60	Fine sand, sand, loamy sand.	SP, SP-SM, SM	A-3, A-2-4	0	100	85-100	80-95	2-15	---	NP
Terra Ceia part-	0-65	Muck-------------	Pt	---	---	---	---	---	---	---	---
Paisley:											
38----------------	0-13	Fine sand--------	SP-SM	A-3, A-2-4	0	100	100	80-99	5-12	---	NP
	13-95	Sandy clay, clay, sandy clay loam.	CH, CL	A-7	0	95-100	90-100	75-95	51-70	41-51	25-35
Paola:											
39----------------	0-26	Fine sand--------	SP	A-3	0	100	100	85-100	1-2	---	NP
	26-99	Sand, fine sand	SP	A-3	0	100	100	80-100	1-4	---	NP

See footnote at end of table.

TABLE 14.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
Pineda:											
40	0-35	Fine sand	SP	A-3	0	100	100	80-95	2-5	---	NP
	35-80	Sandy loam, fine sandy loam, sandy clay loam.	SC, SM-SC	A-2-4, A-2-6	0	100	100	80-95	15-35	20-30	4-12
Pits:											
41											
*42:											
Pits part.											
Dumps part.											
Pomello:											
43	0-31	Fine sand	SP, SP-SM	A-3	0	100	100	60-100	1-8	---	NP
	31-52	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	60-100	6-15	---	NP
	52-80	Sand, fine sand	SP, SP-SM	A-3	0	100	100	60-100	4-10	---	NP
Pompano:											
44	0-80	Fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	75-100	1-12	---	NP
Quartzipsamments, shaped:											
45	0-80	Fine sand	SP, SP-SM	A-3	0	100	100	80-90	2-10	---	NP
Samsula:											
46	0-25	Muck	Pt	---	---	---	---	---	---	---	---
	25-65	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	80-95	6-15	---	NP
Sparr:											
47, 48	0-61	Fine sand	SP-SM	A-3, A-2-4	0	100	100	75-95	5-12	---	NP
	61-64	Sandy loam, fine sandy loam.	SM-SC, SM	A-2-4	0	100	100	75-95	25-35	<30	NP-10
	64-80	Sandy clay, sandy clay loam, sandy loam.	SC, SM-SC	A-2-4, A-2-6, A-4, A-6	0	100	95-100	75-95	30-50	22-40	5-15
Tavares:											
49	0-80	Fine sand	SP, SP-SM	A-3	0	100	95-100	85-100	2-8	---	NP
Udalfic Arents:											
*50:											
Udalfic Arents part	0-48	Variable	---	---	---	---	---	---	---	---	---
	48-58	Fine sand	SP, SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-20	---	NP
	58-70	Very cobbly fine sandy loam, very cobbly sandy clay loam.	SM, SM-SC, SC	A-2-4, A-2-6, A-6	25-50	85-95	80-90	70-80	12-50	0-35	NP-15
	70-80	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Urban land part.											

See footnote at end of table.

TABLE 14.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification Unified	Classification AASHTO	Frag- ments > 3 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
Wabasso:											
51-------------------	0-21	Fine sand--------	SP, SP-SM	A-3	0	100	100	95-100	2-10	---	NP
	21-30	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	95-100	5-20	---	NP
	30-38	Sand, fine sand	SP, SP-SM	A-3	0	100	100	95-100	2-10	---	NP
	38-80	Sandy loam, fine sandy loam, sandy clay loam.	SC, SM-SC, SM	A-2-4, A-2-6	0	100	100	95-100	20-35	20-30	5-13
Wauchula:											
52-------------------	0-8	Fine sand--------	SP-SM	A-3, A-2-4	0	100	100	90-100	5-12	---	NP
	8-24	Sand, fine sand	SP-SM	A-3, A-2-4	0	100	100	90-100	5-12	---	NP
	24-31	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	90-100	8-25	---	NP
	31-38	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	90-100	5-20	---	NP
	38-80	Sandy loam, fine sandy loam, sandy clay loam.	SM, SM-SC, SC	A-2-4, A-2-6, A-4, A-6	0	100	92-100	90-100	25-50	<40	NP-20
Weekiwachee:											
53-------------------	0-32	Muck--------------	PT	---	---	---	---	---	---	---	---
	32-36	Sand, fine sand	SP-SM	A-2-4	0	100	100	85-95	5-12	---	NP
	36-45	Weathered bedrock.	---	---	---	---	---	---	---	---	---
	45	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
*54:											
Weekiwachee part	0-32	Muck--------------	PT	---	---	---	---	---	---	---	---
	32-36	Sand, fine sand	SP-SM	A-2-4	0	100	100	85-95	5-12	---	NP
	36-45	Weathered bedrock.	---	---	---	---	---	---	---	---	---
	45	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Homosassa part---	0-8	Mucky loamy fine sand.	SM, SM-SC	A-2-4	0	100	100	85-95	13-35	<28	NP-7
	8-15	Fine sand, loamy fine sand.	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-25	---	NP
	15-27	Fine sand, loamy fine sand.	SP-SM, SM	A-3, A-2-4	0	85-95	85-95	75-85	5-25	---	NP
	27-33	Weathered bedrock.	---	---	---	---	---	---	---	---	---
	33	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Williston:											
55-------------------	0-12	Loamy fine sand	SM	A-2-4	0	100	100	75-95	15-25	---	NP
	12-18	Sandy clay loam	SC	A-2-4, A-2-6	0	100	100	75-95	25-35	20-40	8-18
	18-37	Sandy clay, clay	SC, CL, CH	A-6, A-7	0	90-100	85-100	75-90	45-60	30-55	18-35
	37	Weathered bedrock.	---	---	---	---	---	---	---	---	---
Williston Variant:											
56-------------------	0-4	Loamy fine sand	SM	A-2-4	0	100	100	75-95	13-25	---	NP
	4-12	Sandy clay, clay	SC, CL, CH	A-6, A-7	0	90-100	85-100	75-90	45-60	30-55	18-35
	12	Weathered bedrock.	---	---	---	---	---	---	---	---	---

*This mapping unit is made up of two or more dominant kinds of soil. See mapping unit description for the composition and behavior of the whole mapping unit.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS

[The symbol < means less than; > means greater than. The erosion tolerance factor (T) is for the entire profile. Absence of an entry means data were not available or were not estimated]

Soil name and map symbol	Depth	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete	Erosion factors: K	Erosion factors: T	Wind erodibility group
	In	In/hr	In/in	pH	Mmhos/cm						
Adamsville:											
1------------------	0-3	6.0-20	0.05-0.10	4.5-7.8	<2	Very low--	Low--------	Moderate	---	---	2
	3-80	6.0-20	0.03-0.08	4.5-7.8	<2	Very low--	Low--------	Moderate	---		
Anclote:											
2------------------	0-14	6.0-20	0.10-0.15	5.6-8.4	<2	Very low--	Moderate	Moderate	---	---	2
	14-80	6.0-20	0.03-0.10	5.6-8.4	<2	Very low--	Moderate	Low--------	---		
Arents:											
*3:											
Arents part------	0-55	0.06-2.0	0.05-0.15	7.4-8.4	<2	Low--------	High------	Low--------	0.24	5	5
	55-62	0.6-2.0	0.15-0.20	7.4-8.4	<2	Low--------	High------	Low--------	---		
	62-70	2.0-6.0	0.05-0.10	7.4-8.4	<2	Low--------	High------	Low--------	0.17		
	70-80	---	---	---	---	---------	---------	---------	---		
Urban land part.											
Aripeka:											
4------------------	0-13	6.0-20	0.05-0.10	5.6-7.8	2-4	Low--------	High------	Low--------	0.17	2	2
	13-21	2.0-6.0	0.10-0.15	6.6-8.4	2-4	Low--------	High------	Low--------	0.20		
	21-29	---	---	---	---	---------	---------	---------	---		
	29	---	---	---	---	---------	---------	---------	---		
*5:											
Aripeka part-----	0-13	6.0-20	0.05-0.10	5.6-7.8	2-4	Low--------	High------	Low--------	0.17	2	2
	13-21	2.0-6.0	0.10-0.15	6.6-8.4	2-4	Low--------	High------	Low--------	0.20		
	21-29	---	---	---	---	---------	---------	---------	---		
	29	---	---	---	---	---------	---------	---------	---		
Okeelanta part--	0-27	6.0-20	0.20-0.30	5.1-6.5	<2	Low--------	High------	Moderate	---	---	2
	27-60	6.0-20	0.05-0.10	5.1-7.3	<2	Low--------	High------	Moderate	---		
Lauderhill part-	0-27	6.0-20	0.20-0.25	6.1-8.4	<2	Low--------	High------	Moderate	---	---	2
	27	---	---	---	---	---------	---------	---------	---		
Arredondo:											
6, 7---------------	0-62	6.0-20	0.05-0.08	4.5-6.0	<2	Low--------	Low--------	High------	0.15	5	2
	62-69	2.0-6.0	0.10-0.15	4.5-6.0	<2	Low--------	Low--------	High------	0.24		
	69-99	0.6-6.0	0.12-0.17	4.5-6.0	<2	Low--------	Moderate	High------	0.37		
Astatula:											
8------------------	0-85	>20	0.02-0.05	4.5-6.0	<2	Very low--	Low--------	High------	0.15	5	2
Basinger:											
9, 10--------------	0-80	>20	0.03-0.07	3.6-5.5	<2	Very low--	High------	Moderate	0.10	5	2
Blichton:											
11, 12, 13---------	0-28	6.0-20	0.05-0.10	4.5-6.0	<2	Low--------	High------	High------	0.20	5	2
	28-34	2.0-6.0	0.10-0.15	4.5-5.5	<2	Low--------	High------	High------	0.24		
	34-63	0.6-2.0	0.10-0.15	4.5-5.5	<2	Moderate	High------	High------	0.32		
	63-75	0.2-0.6	0.20-0.25	4.5-5.5	<2	High-------	High------	High------	0.32		
Candler:											
14, 15-------------	0-48	>20	0.02-0.05	4.5-5.5	<2	Very low--	Low--------	High------	0.10	5	2
	48-80	6.0-20	0.05-0.08	4.5-5.5	<2	Very low--	Low--------	High------	0.10		
*16:											
Candler part-----	0-48	>20	0.02-0.05	4.5-5.5	<2	Very low--	Low--------	High------	0.10	5	2
	48-80	6.0-20	0.05-0.08	4.5-5.5	<2	Very low--	Low--------	High------	0.10		
Urban land part.											
Delray:											
17-----------------	0-13	6.0-20	0.10-0.15	5.6-7.3	<2	Low--------	Moderate	Low--------	0.17	5	2
	13-55	6.0-20	0.05-0.08	6.1-7.3	<2	Low--------	Moderate	Low--------	0.17		
	55-80	0.6-6.0	0.10-0.15	6.6-7.8	<2	Low--------	Moderate	Low--------	0.24		

See footnote at end of table.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Soil name and map symbol	Depth	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete	Erosion factors: K	Erosion factors: T	Wind erodibility group
	In	In/hr	In/in	pH	Mmhos/cm						
EauGallie: 18	0-17	6.0-20	0.02-0.05	4.5-5.5	<2	Low	High	Moderate	0.17	5	2
	17-36	0.6-6.0	0.05-0.10	5.1-6.0	<2	Low	High	Moderate	0.20		
	36-72	6.0-20	0.02-0.05	5.6-7.8	<2	Low	High	Moderate	0.17		
	72-80	0.6-6.0	0.10-0.15	5.6-7.8	<2	Low	High	Moderate	0.32		
Electra Variant: 19	0-24	6.0-20	0.02-0.07	4.5-5.5	<2	Low	Low	High	0.15	5	2
	24-30	0.6-2.0	0.10-0.15	4.5-5.5	<2	Low	Low	High	0.20		
	30-53	6.0-20	0.07-0.10	4.5-5.5	<2	Low	Low	High	0.20		
	53-73	0.6-6.0	0.10-0.17	4.5-5.5	<2	Low	High	High	0.32		
	73-80	6.0-20	0.06-0.15	4.5-5.5	<2	Low	High	High	0.24		
Flemington: 20, 21, 22	0-5	2.0-20	0.08-0.13	4.5-5.5	<2	Low	High	High	0.32	5	3
	5-36	<0.06	0.12-0.15	4.5-5.5	<2	High	High	High	0.37		
	36-66	<0.06	0.12-0.18	4.5-5.5	<2	High	High	High	---		
	66-81	<0.06	0.15-0.18	4.5-5.5	<2	High	High	High	---		
Floridana: 23	0-16	6.0-20	0.10-0.15	6.1-8.4	<2	Very low	Moderate	Low	0.17	5	2
	16-27	6.0-20	0.05-0.10	6.1-8.4	<2	Very low	Moderate	Low	0.32		
	27-80	0.6-2.0	0.10-0.15	6.1-8.4	<2	Low	Moderate	Low	0.20		
*24: Floridana part	0-16	6.0-20	0.10-0.15	6.1-8.4	<2	Very low	Moderate	Low	0.17	5	2
	16-27	6.0-20	0.05-0.10	6.1-8.4	<2	Very low	Moderate	Low	0.32		
	27-80	0.6-2.0	0.10-0.15	6.1-8.4	<2	Low	Moderate	Low	0.20		
Basinger part	0-80	>20	0.03-0.07	3.6-5.5	<2	Very low	High	Moderate	0.10	5	2
Floridana Variant: 25	0-8	6.0-20	0.10-0.15	4.5-5.5	<2	Low	Moderate	High	0.20	5	2
	8-22	6.0-20	0.05-0.10	4.5-5.5	<2	Low	Moderate	High	0.20		
	22-42	0.6-6.0	0.10-0.15	4.5-5.5	<2	Low	Moderate	High	0.32		
	42-59	2.0-6.0	0.06-0.15	4.5-5.5	<2	Low	Moderate	High	0.24		
	59-80	0.06-0.2	0.14-0.18	4.5-5.5	<2	High	Moderate	High	0.32		
Homosassa: 26	0-8	2.0-20	0.20-0.25	6.1-7.8	>16	Low	High	Low	0.20	2	2
	8-15	2.0-20	0.10-0.15	6.1-7.8	>16	Low	High	Low	0.17		
	15-27	2.0-20	0.07-0.12	6.1-7.8	>16	Low	High	Low	0.17		
	27-33	---	---	---	---	---	---	---	---		
	33	---	---	---	---						
Hydraquents: 27	0-80	<0.06	0.15-0.20	7.9-8.4	<2	High	High	Low	0.37	5	4
Kanapaha: 28	0-50	6.0-20	0.03-0.08	4.5-5.5	<2	Very low	High	High	0.15	5	2
	50-56	0.6-2.0	0.10-0.15	4.5-5.5	<2	Low	High	High	0.24		
	56-65	0.2-0.6	0.10-0.15	4.5-5.5	<2	Low	High	High	0.32		
Kendrick: 29	0-28	6.0-20	0.05-0.07	4.5-5.5	<2	Low	Low	High	0.17	5	2
	28-34	0.6-2.0	0.12-0.15	4.5-5.5	<2	Low	Moderate	Moderate	0.32		
	34-63	0.6-2.0	0.12-0.17	4.5-5.5	<2	Low	Moderate	Moderate	0.32		
	63-80	0.6-2.0	0.12-0.15	4.5-5.5	<2	Low	Moderate	Moderate	0.32		
Lacoochee: 30	0-6	0.6-2.0	0.15-0.20	7.9-8.4	>16	Low	High	Low	0.20	1	3
	6-15	2.0-6.0	0.10-0.15	6.6-8.4	>16	Low	High	Low	0.17		
	15-26	---	---	---	---	---	---	---	---		
	26	---	---	---	---	---	---	---	---		
Lake: 31	0-82	6.0-20	0.03-0.06	4.5-6.5	<2	Low	Low	High	0.15	5	2

See footnote at end of table.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Soil name and map symbol	Depth	Permea-bility	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Risk of corrosion		Erosion factors		Wind erodi-bility group
							Uncoated steel	Concrete	K	T	
	In	In/hr	In/in	pH	Mmhos/cm						
Masaryk:											
32	0-70	6.0-20	0.05-0.10	4.5-6.0	<2	Low	Low	High	0.17	5	2
	70-90	0.2-2.0	0.10-0.15	4.5-5.5	<2	-----------	Moderate	High	0.32		
Micanopy:											
33, 34	0-18	6.0-20	0.06-0.10	4.5-6.0	<2	Low	Low	High	0.20	5	2
	18-25	0.6-2.0	0.12-0.15	4.5-6.0	<2	Moderate	High	High	0.32		
	25-62	0.06-0.2	0.15-0.18	4.5-5.5	<2	High	High	High	0.28		
Myakka:											
35	0-23	6.0-20	0.02-0.05	4.5-6.5	---	Low	High	High	0.20	5	2
	23-37	0.6-6.0	0.10-0.15	4.5-6.5	---	Low	High	High	0.20		
	37-80	6.0-20	0.02-0.05	4.5-6.5	---	Low	High	High	0.17		
Nobleton:											
36	0-33	6.0-20	0.05-0.10	4.5-6.0	<2	Low	Moderate	High	0.20	5	2
	33-37	0.2-2.0	0.12-0.18	3.6-5.5	<2	Low	High	High	0.32		
	37-60	0.2-0.6	0.14-0.18	3.6-5.5	<2	Moderate	High	High	0.28		
	60-80	0.2-2.0	0.12-0.18	3.6-5.5	<2	Moderate	High	High	0.32		
	80-85	0.2-6.0	0.11-0.18	3.6-5.5	<2	Low	High	High	0.32		
Okeelanta:											
*37:											
Okeelanta part	0-27	6.0-20	0.20-0.30	4.5-7.8	<2	Low	High	Moderate	---	---	2
	27-60	6.0-20	0.05-0.10	5.1-7.8	<2	Low	High	Moderate	---		
Terra Ceia part	0-65	6.0-20	0.30-0.50	5.6-8.4	<2	Low	Moderate	Moderate	---	---	2
Paisley:											
38	0-13	6.0-20	0.05-0.08	4.5-6.5	<2	Low	High	Moderate	0.24	5	2
	13-95	0.06-0.2	0.15-0.18	5.6-8.4	<2	High	High	Low	0.32		
Paola:											
39	0-26	>20	0.02-0.05	4.5-6.0	<2	Very low	Low	High	0.15	5	1
	26-99	>20	0.02-0.05	4.5-6.0	<2	Very low	Low	High	0.15		
Pineda:											
40	0-35	6.0-20	0.02-0.05	5.6-8.4	<2	Low	High	Low	0.17	5	2
	35-80	2.0-6.0	0.10-0.15	7.4-8.4	<2	Low	High	Low	0.24		
Pits:											
41											
*42:											
Pits part.											
Dumps part.											
Pomello:											
43	0-31	>20	0.02-0.05	4.5-6.0	<2	Very low	Low	High	0.17	5	1
	31-52	2.0-6.0	0.10-0.15	4.5-6.0	<2	Very low	Low	High	0.20		
	52-80	6.0-20	0.02-0.05	4.5-6.0	<2	Very low	Low	High	0.17		
Pompano:											
44	0-80	>20	0.02-0.05	4.5-7.8	<2	Very low	High	Moderate	---	---	2
Quartzipsamments, shaped:											
45	0-80	>20	0.02-0.05	5.1-7.3	<2	Very low	Low	Moderate	0.15	5	1
Samsula:											
46	0-25	6.0-20	0.20-0.25	3.6-4.5	<2	Low	High	High	---	---	2
	25-65	6.0-20	0.02-0.05	4.5-5.5	<2	Low	High	High	---		
Sparr:											
47, 48	0-61	6.0-20	0.05-0.08	4.5-6.5	<2	Low	Low	High	0.10	5	2
	61-64	0.6-2.0	0.11-0.15	4.5-6.0	<2	Low	Moderate	High	0.24		
	64-80	0.6-2.0	0.15-0.18	4.5-6.0	<2	Low	Moderate	High	0.37		

See footnote at end of table.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Soil name and map symbol	Depth	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete	Erosion factors: K	Erosion factors: T	Wind erodibility group
	In	In/hr	In/in	pH	Mmhos/cm						
Tavares:											
49	0-80	>20	0.02-0.05	4.5-6.0	<2	Very low	Low	High	0.17	5	2
Udalfic Arents:											
*50:											
Udalfic Arents part	0-48	0.06-2.0	0.05-0.15	7.4-8.4	<2	Low	High	Low	0.24	5	5
	48-58	2.0-6.0	0.05-0.10	7.4-8.4	<2	Low	High	Low	0.17		
	58-70	0.6-2.0	0.10-0.15	7.4-8.4	<2	Low	High	Low	0.20		
	70-80	---	---	---	---	---	---	---	---		
Urban land part.											
Wabasso:											
51	0-21	6.0-20	0.02-0.05	4.5-6.5	<2	Low	Moderate	High	0.20	5	2
	21-30	0.6-2.0	0.10-0.15	4.5-7.3	<2	Low	Moderate	High	0.20		
	30-38	6.0-20	0.02-0.05	5.6-7.8	<2	Low	Low	Moderate	0.20		
	38-80	0.6-2.0	0.10-0.15	5.6-7.8	<2	Low	Low	Low	0.24		
Wauchula:											
52	0-8	6.0-20	0.08-0.15	4.5-5.5	<2	Low	High	High	0.20	5	2
	8-24	6.0-20	0.02-0.05	4.5-5.5	<2	Low	High	High	0.20		
	24-31	0.6-6.0	0.15-0.25	4.5-5.5	<2	Low	High	High	0.20		
	31-38	6.0-20	0.08-0.10	4.5-5.5	<2	Low	High	High	0.20		
	38-80	0.6-6.0	0.11-0.17	4.5-5.5	<2	Low	High	High	0.37		
Weekiwachee:											
53	0-32	2.0-6.0	0.20-0.25	6.1-7.8	>16	Low	High	Low	---	---	2
	32-36	2.0-6.0	0.10-0.15	6.1-7.8	>16	Low	High	Low	0.24		
	36-45	---	---	---	---	---	---	---	---		
	45	---	---	---	---	---	---	---	---		
*54:											
Weekiwachee part	0-32	2.0-6.0	0.20-0.25	6.1-7.8	>16	Low	High	Low	---	---	2
	32-36	2.0-6.0	0.10-0.15	6.1-7.8	>16	Low	High	Low	0.24		
	36-45	---	---	---	---	---	---	---	---		
	45	---	---	---	---	---	---	---	---		
Homosassa part	0-8	2.0-20	0.20-0.25	6.1-7.8	>16	Low	High	Low	0.20	2	2
	8-15	2.0-20	0.10-0.15	6.1-7.8	>16	Low	High	Low	0.17		
	15-27	2.0-20	0.07-0.12	6.1-7.9	>16	Low	High	Low	0.17		
	27-33	---	---	---	---	---	---	---	---		
	33	---	---	---	---	---	---	---	---		
Williston:											
55	0-12	6.0-20	0.08-0.10	5.1-7.3	<2	Low	Low	Moderate	0.20	2	2
	12-18	0.6-2.0	0.12-0.17	5.6-7.3	<2	Low	Moderate	Moderate	0.32		
	18-37	0.2-0.6	0.14-0.18	6.1-7.8	<2	Moderate	High	Low	0.28		
	37	---	---	---	---	---	---	---	---		
Williston Variant:											
56	0-4	6.0-20	0.08-0.10	6.6-8.4	<2	Low	Low	Low	0.20	1	2
	4-12	0.2-0.6	0.14-0.18	6.6-8.4	<2	Moderate	High	Low	0.32		
	12	---	---	---	---	---	---	---	---		

*This mapping unit is made up of two or more dominant kinds of soil. See mapping unit description for the composition and behavior of the whole mapping unit.

TABLE 16.--SOIL AND WATER FEATURES

[Absence of an entry indicates the feature is not a concern. The symbol > means greater than]

Soil name and map symbol	Hydro-logic group	Flooding			High water table			Bedrock		Subsidence	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hard-ness	Initial	Total
					Ft			In		In	In
Adamsville:											
1----------------	C	None---------	---	---	2.0-3.5	Apparent	Jun-Nov	>60	---	---	---
Anclote:											
2----------------	D	None---------	---	---	+2-1.0	Apparent	Jun-Dec	>60	---	---	---
Arents:											
*3:											
Arents part-----	C	None---------	---	---	3.5-5.0	Apparent	Jan-Dec	>60	---	5-10	15-25
Urban land part.											
Aripeka:											
4----------------	C	Occasional	Very brief	Jan-Dec	1.5-2.5	Apparent	Jul-Sep	23-40	Hard	---	---
*5:											
Aripeka part----	C	None---------	---	---	1.5-2.5	Apparent	Jul-Sep	23-40	Hard	---	---
Okeelanta part--	A/D	None---------	---	---	+1-0	Apparent	Jun-Jan	>60	---	4-8	16-30
Lauderhill part	A/D	None---------	---	---	+1-1.0	Apparent	Jun-Feb	20-40	Hard	4-8	16-36
Arredondo:											
6, 7-------------	A	None---------	---	---	>6.0	---	---	>60	---	---	---
Astatula:											
8----------------	A	None---------	---	---	>6.0	---	---	>60	---	---	---
Basinger:											
9----------------	A/D	None---------	---	---	0-1.0	Apparent	Jun-Nov	>60	---	---	---
10---------------	A/D	None---------	---	---	+2-1.0	Apparent	Jan-Dec	>60	---	---	---
Blichton:											
11, 12, 13-------	D	None---------	---	---	0-1.0	Apparent	Jun-Sep	>60	---	---	---
Candler:											
14, 15-----------	A	None---------	---	---	>6.0	---	---	>60	---	---	---
*16:											
Candler part----	A	None---------	---	---	>6.0	---	---	>60	---	---	---
Urban land part.											
Delray:											
17---------------	A/D	None---------	---	---	+2-1.0	Apparent	Jun-Feb	>60	---	---	---
EauGallie:											
18---------------	B/D	None---------	---	---	0-1.0	Apparent	Jun-Feb	>60	---	---	---
Electra Variant:											
19---------------	C	None---------	---	---	2.0-3.5	Apparent	Jul-Oct	>60	---	---	---
Flemington:											
20, 21, 22-------	D	None---------	---	---	0-2.5	Perched	Jun-Sep	>60	---	---	---
Floridana:											
23---------------	A/D	None---------	---	---	+2-1.0	Apparent	Jun-Feb	>60	---	---	---
*24:											
Floridana part--	A/D	Frequent-----	Very long	Jun-Feb	0-1.0	Apparent	Jun-Feb	>60	---	---	---
Basinger part---	A/D	Frequent-----	Very long	Jun-Feb	0-1.0	Apparent	Jun-Nov	>60	---	---	---

See footnote at end of table.

TABLE 16.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydro-logic group	Flooding			High water table			Bedrock		Subsidence	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hard-ness	Initial	Total
					Ft			In		In	In
Floridana Variant:											
25	A/D	None	---	---	+2-1.0	Apparent	Jun-Feb	>60	---	---	---
Homosassa:											
26	D	Frequent	Very long	Jan-Dec	+1-0.5	Apparent	Jan-Dec	23-40	Hard	---	---
Hydraquents:											
27	D	None	---	---	+2-1.0	Apparent	Jan-Dec	>60	---	---	---
Kanapaha:											
28	A/D	None	---	---	0-1.0	Apparent	Jul-Sep	>60	---	---	---
Kendrick:											
29	A	None	---	---	>6.0	---	---	>60	---	---	---
Lacoochee:											
30	D	Frequent	Very long	Jan-Dec	+1-0.5	Apparent	Jan-Dec	20-40	Hard	---	---
Lake:											
31	A	None	---	---	>6.0	---	---	>60	---	---	---
Masaryk:											
32	A	None	---	---	3.5-6.0	Perched	Jun-Oct	>60	---	---	---
Micanopy:											
33, 34	C	None	---	---	1.5-2.5	Perched	Jul-Nov	>60	---	---	---
Myakka:											
35	A/D	None	---	---	0-1.0	Apparent	Jun-Feb	>60	---	---	---
Nobleton:											
36	C	None	---	---	1.5-3.5	Perched	Jul-Oct	>60	---	---	---
Okeelanta:											
*37:											
Okeelanta part	A/D	None	---	---	+1-0	Apparent	Jun-Jan	>60	---	4-8	16-30
Terra Ceia part	A/D	None	---	---	+1-1.0	Apparent	Jun-Apr	>60	Hard	4-8	50-60
Paisley:											
38	D	Rare	---	---	0-1.0	Apparent	Jun-Nov	>60	---	---	---
Paola:											
39	A	None	---	---	>6.0	---	---	>60	---	---	---
Pineda:											
40	B/D	Rare	Brief	Jul-Oct	0-1.0	Apparent	Jun-Nov	>60	---	---	---
Pits:											
41											
*42:											
Pits part.											
Dumps part.											
Pomello:											
43	C	None	---	---	2.0-3.5	Apparent	Jul-Nov	>60	---	---	---
Pompano:											
44	A/D	None	---	---	0-1.0	Apparent	Jun-Nov	>60	---	---	---
Quartzipsamments, shaped:											
45	A	None	---	---	3.5-4.5	Apparent	Jan-Dec	>60	---	---	---
Samsula:											
46	A/D	None	---	---	+2-1.0	Apparent	Jan-Dec	>60	---	4-8	30-36

See footnote at end of table.

TABLE 16.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydro-logic group	Flooding			High water table			Bedrock		Subsidence	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hard-ness	Initial	Total
					Ft			In		In	In
Sparr:											
47, 48------------	A	None---------	---	---	1.5-3.5	Perched	Jul-Oct	>60	---	---	---
Tavares:											
49----------------	A	None---------	---	---	3.5-6.0	Apparent	Jun-Dec	>60	---	---	---
Udalfic Arents:											
*50:											
Udalfic Arents part-----------	C	None---------	---	---	3.5-5.0	Apparent	Jan-Dec	>60	---	---	---
Urban land part.											
Wabasso:											
51----------------	B/D	None---------	---	---	0-1.0	Apparent	Jun-Oct	>60	---	---	---
Wauchula:											
52----------------	B/D	None---------	---	---	0-1.0	Apparent	Jun-Feb	>60	---	---	---
Weekiwachee:											
53----------------	D	Frequent-----	Very long	Jan-Dec	+1-0.5	Apparent	Jan-Dec	40-51	Hard	---	---
*54:											
Weekiwachee part-----------	D	Frequent-----	Very long	Jan-Dec	+1-0.5	Apparent	Jan-Dec	40-51	Hard	---	---
Homosassa part-	D	Frequent-----	Very long	Jan-Dec	+1-0.5	Apparent	Jan-Dec	23-40	Hard	---	---
Williston:											
55----------------	C	None---------	---	---	>6.0	---	---	20-40	Rip-pable	---	---
Williston Variant:											
56----------------	C	None---------	---	---	>6.0	---	---	7-20	Rip-pable	---	---

*This mapping unit is made up of two or more dominant kinds of soil. See mapping unit description for the composition and behavior of the whole mapping unit.

TABLE 17.--PHYSICAL PROPERTIES OF SELECTED SOILS

Soil series and sample numbers	Depth	Horizon	Particle size distribution: Sand: VC (2-1)	C (1-.5)	M (.5-.25)	F (.25-.1)	VF (.1-.05)	Total (2-.05)	Silt: Total (.05-.002)	Clay: Total <0.002	Hydr. cond. (sat.)	Bulk density field moist.	Water content: 1/10 bar	1/3 bar	15 bar
	Cm		Pct of <2 mm								cm/hr	g/cc	Pct (wt)		
Aripeka:															
S27-24-1	0-8	A1	0.1	1.3	10.9	62.6	14.8	91.0	7.2	1.8	---	---	---	---	---
S27-24-2	8-13	A2	0.1	2.0	14.0	61.8	15.0	92.9	5.3	1.8	---	---	---	---	---
S27-24-3	13-25	B21	0.3	3.4	12.2	63.6	14.9	94.4	3.4	2.2	---	---	---	---	---
S27-24-4	25-33	B22	0.3	3.2	11.5	61.8	15.1	91.9	4.2	3.9	---	---	---	---	---
S27-24-5	33-38	B23t	0.2	2.3	9.5	46.4	11.4	69.8	5.8	24.4	---	---	---	---	---
S27-24-6	38-53	B24t	0.3	3.0	10.6	49.8	12.0	75.7	4.8	19.5	---	---	---	---	---
Arredondo:															
S27-11-1	0-20	Ap	0.0	0.6	12.6	65.0	12.5	90.7	5.6	3.7	14.9	1.49	10 03	6.45	2.50
S27-11-2	20-36	A21	0.0	0.6	14.0	68.7	11.0	94.3	2.3	3.4	23.0	1.57	5.35	3.31	1.36
S27-11-3	36-104	A22	0.0	0.6	14.4	69.8	11.0	95.8	1.7	2.5	25.9	1.55	4.18	2.42	1.07
S27-11-4	104-137	A23	0.0	0.7	13.5	71.4	11.8	97.4	0.8	1.8	26.1	1.54	3.72	1.80	0.67
S27-11-5	137-157	B1	0.0	0.6	12.9	68.0	11.3	92.8	1.0	6.2	11.7	1.63	9.39	5.16	2.72
S27-11-6	157-175	B21t	0.0	0.6	11.9	63.8	10.4	86.7	0.0	13.3	1.0	1.67	16.48	12.69	6.38
S27-11-7	175-203	B22t	0.0	0.6	9.7	45.2	6.9	62.4	0.9	36.7	0.1	1.58	24.48	22.07	12.22
S27-11-8	203-254	B23t	0.0	0.6	12.4	56.8	7.2	77.0	0.0	23.0	---	---	---	---	---
Astatula:															
S27-22-1	0-10	A1	0.0	0.5	25.7	64.3	6.3	97.3	1.8	0.9	---	---	---	---	---
S27-22-2	10-61	C1	0.0	0.4	21.5	69.8	6.3	98.0	1.3	0.7	---	---	---	---	---
S27-22-3	61-165	C2	0.0	0.4	20.3	71.1	6.2	98.0	1.1	0.9	---	---	---	---	---
S27-22-4	165-216	C3	0.0	0.5	22.8	69.3	5.9	98.5	0.7	0.8	---	---	---	---	---
Basinger:															
S27-17-1	0-8	A1	0.1	1.8	18.8	63.9	7.8	92.4	4.7	2.9	43.8	1.26	19.83	10.29	3.75
S27-17-2	8-20	A2	0.1	1.7	17.4	70.2	8.6	98.0	1.1	0.9	25.6	1.50	5.80	3.47	1.61
S27-17-3	20-61	A2&Bh	0.1	1.7	16.9	70.3	7.3	96.3	1.0	2.7	21.5	1.39	10.81	7.28	2.22
S27-17-4	61-101	C1	0.1	1.6	15.0	73.4	7.7	97.8	0.6	1.6	25.4	1.62	4.63	2.70	0.99
S27-17-5	101-203	C2	0.1	1.8	15.5	72.8	7.9	98.1	0.4	1.5	---	---	---	---	---
Blichton:															
S27-9-1	0-23	Ap	0.1	1.2	15.3	53.8	16.4	86.8	7.5	5.7	7.0	1.41	13.42	9.16	3.00
S27-9-2	23-58	A21	0.2	1.3	14.9	54.5	17.2	88.1	5.7	6.2	4.1	1.62	12.57	7.99	2.52
S27-9-3	58-71	A22	0.2	1.3	14.7	54.5	17.2	87.8	5.1	7.1	1.2	1.52	29.46	23.39	3.14
S27-9-4	71-86	B21tg	0.1	1.0	11.5	44.1	15.0	71.7	4.1	24.2	0.0	1.65	22.22	19.76	10.54
S27-9-5	86-124	B22tg	0.3	1.1	11.0	38.1	12.3	62.8	5.0	32.2	0.1	1.67	23.10	20.88	11.99
S27-9-6	124-160	B23tg	0.2	1.1	12.4	35.6	9.1	58.4	2.7	38.9	0.0	1.60	26.57	25.21	16.19
S27-9-7	160-190	Cg	0.7	1.1	3.9	17.3	9.4	32.4	6.7	60.9	0.0	1.26	44.80	43.10	36.28
Candler:															
S27-6-1	0-10	A1	0.0	1.1	24.5	64.5	6.9	97.0	1.9	1.1	33.2	1.45	5.19	3.56	1.22
S27-6-2	10-23	A21	0.0	0.9	21.3	66.6	8.2	97.0	1.6	1.4	31.9	1.52	4.70	3.20	1.02
S27-6-3	23-51	A22	0.0	1.0	22.9	66.4	7.5	97.8	1.4	0.8	36.8	1.51	3.83	2.34	0.83
S27-6-4	51-122	A23	0.0	1.0	21.2	68.3	7.3	97.8	0.5	1.7	42.7	1.53	3.13	1.96	0.72
S27-6-5	122-203	A2&B	0.0	0.9	19.0	70.6	7.7	98.2	0.6	1.2	33.0	1.55	3.27	1.89	0.57

TABLE 17.--PHYSICAL PROPERTIES OF SELECTED SOILS--Continued

Soil series and sample numbers	Depth	Horizon	Particle size distribution: Sand VC (2-1)	C (1-.5)	M (.5-.25)	F (.25-.1)	VF (.1-.05)	Total (2-.05)	Silt Total (.05-.002)	Clay Total <0.002	Hydr. cond. (sat.)	Bulk density field moist.	Water content 1/10 bar	1/3 bar	15 bar
	Cm		Pct of <2 mm								cm/hr	g/cc	Pct (wt)		
Electra Variant:															
S27-25-1	0-8	A11	0.0	0.4	14.0	73.2	7.4	95.0	3.6	1.4	---	---	---	---	---
S27-25-2	8-13	A12	0.0	0.4	13.9	75.4	7.9	97.6	1.6	0.8	---	---	---	---	---
S27-25-3	13-61	A2	0.0	0.5	13.1	76.9	7.8	98.3	1.3	0.4	---	---	---	---	---
S27-25-4	61-66	B21h	0.0	0.5	10.6	68.4	7.3	86.8	5.7	7.5	---	---	---	---	---
S27-25-5	66-76	B22h	0.0	0.4	12.8	71.9	5.9	91.0	4.2	4.8	---	---	---	---	---
S27-25-6	76-112	B3	0.0	0.5	11.8	75.2	6.7	94.2	1.8	4.0	---	---	---	---	---
S27-25-7	112-135	A´2	0.0	0.5	11.5	72.5	7.0	91.5	2.5	6.0	---	---	---	---	---
S27-25-8	135-185	B´21t	0.0	0.3	10.2	52.4	3.8	66.7	2.5	30.8	---	---	---	---	---
S27-25-9	185-203	B´22t	0.0	0.3	11.4	54.9	3.1	69.7	1.3	29.0	---	---	---	---	---
Flemington:															
S27-20-1	0-8	A1	0.1	0.5	11.1	51.4	15.8	78.6	9.1	12.3	---	---	---	---	---
S27-20-2	8-23	B21tg	0.0	0.2	4.5	21.7	8.3	34.7	0.6	64.7	---	---	---	---	---
S27-20-3	23-71	B22tg	0.0	0.2	5.3	21.4	9.2	36.1	2.1	61.8	---	---	---	---	---
S27-20-4	71-119	B22tg	0.0	0.1	2.8	11.8	7.6	22.3	4.4	73.3	---	---	---	---	---
S27-20-5	119-203	B23tg	0.0	0.2	2.6	17.5	9.8	30.1	7.6	61.3	---	---	---	---	---
Floridana Variant:															
S27-21-1	0-20	A11	0.0	0.2	9.1	43.4	34.0	86.7	8.7	4.6	3.9	1.50	20.92	10.69	3.81
S27-21-2	20-38	A12	0.0	0.3	10.0	47.9	34.1	92.3	4.8	2.9	8.6	1.54	15.36	5.82	2.07
S27-21-3	38-45	A21	0.0	0.3	10.0	50.7	33.8	94.8	3.7	1.5	6.2	1.64	14.52	4.67	1.33
S27-21-4	45-56	A22	0.0	0.4	10.9	52.0	33.6	96.9	2.0	1.1	11.7	1.67	13.52	3.05	2.24
S27-21-5	56-107	B21tg	0.0	0.2	8.0	35.5	26.1	69.8	2.4	27.8	0.0	1.66	21.36	19.91	10.90
S27-21-6	107-150	B22tg&A´2	0.0	0.3	9.8	39.5	32.7	82.3	3.7	14.0	0.2	1.78	16.06	12.75	3.87
S27-21-7	150-203	B´23tg	0.0	0.2	3.4	25.2	26.5	55.3	4.9	39.8	1.3	1.80	17.20	16.29	10.16
Kendrick:															
S27-13-1	0-10	A1	0.1	0.7	9.5	66.7	13.6	90.6	4.5	4.5	36.3	1.26	10.52	7.10	3.71
S27-13-2	10-28	A21	0.0	0.9	11.1	66.0	13.1	91.1	3.5	5.4	27.3	1.38	7.70	5.01	2.85
S27-13-3	28-58	A22	0.0	0.9	9.8	66.4	13.9	91.0	3.2	5.8	34.8	1.43	7.57	4.52	2.55
S27-13-4	58-71	A23	0.0	0.8	9.7	66.7	13.4	90.6	2.1	7.3	36.1	1.46	9.65	4.39	2.96
S27-13-5	71-86	B21t	0.0	0.7	77.7	59.4	11.8	79.6	1.9	18.5	6.4	1.51	14.65	11.26	6.88
S27-13-6	86-114	B22t	0.0	0.7	6.8	42.8	7.4	57.7	3.0	39.3	1.5	1.50	22.59	19.83	15.40
S27-13-7	114-160	B23t	0.0	0.7	8.1	46.3	5.8	60.9	1.0	38.1	10.4	1.68	19.97	16.16	13.58
S27-13-8	160-203	B3t	0.0	0.5	8.6	49.7	7.8	66.6	1.5	31.9	0.2	1.71	18.48	16.33	13.36
Lake:															
S27-28-1	0-10	A11	0.0	1.0	14.8	69.8	5.7	91.3	4.3	4.4	---	---	---	---	---
S27-28-2	10-20	A12	0.0	1.0	15.6	71.2	5.0	92.8	3.5	3.7	---	---	---	---	---
S27-28-3	20-86	C1	0.0	1.0	17.1	70.7	4.8	93.6	2.2	4.2	---	---	---	---	---
S27-28-4	86-109	C2	0.0	1.2	16.7	70.3	3.4	91.6	2.2	6.2	---	---	---	---	---
S27-28-5	109-208	C3	0.0	1.0	15.0	72.1	5.4	93.5	1.7	4.8	---	---	---	---	---

TABLE 17.--PHYSICAL PROPERTIES OF SELECTED SOILS--Continued

Soil series and sample numbers	Depth	Horizon	Particle size distribution: Sand: VC (2-1)	C (1-.5)	M (.5-.25)	F (.25-.1)	VF (.1-.05)	Total (2-.05)	Silt: Total (.05-.002)	Clay: Total <0.002	Hydr. cond. (sat.)	Bulk density field moist.	Water content: 1/10 bar	1/3 bar	15 bar
	Cm		Pct of <2 mm								cm/hr	g/cc	Pct (wt)		
Masaryk:															
S27-12-1	0-8	A1	0.0	0.1	4.3	36.1	50.4	91.8	6.7	1.5	11.6	1.47	10.90	5.08	1.75
S27-12-2	8-33	A21	0.0	0.1	4.4	37.8	51.1	93.4	5.3	1.3	12.8	1.49	9.54	4.03	1.24
S27-12-3	33-61	A22	0.0	0.1	4.5	39.1	50.4	94.2	4.6	1.2	17.4	1.47	8.09	2.99	0.94
S27-12-4	61-99	A23	0.0	0.1	4.6	38.0	52.1	94.8	4.1	1.1	15.1	1.51	7.94	2.89	0.88
S27-12-5	99-160	A24	0.0	0.1	4.1	38.4	52.9	95.5	4.0	0.5	10.5	1.59	9.93	2.15	0.78
S27-12-6	160-178	A25	0.0	0.1	3.8	39.6	52.0	95.5	4.1	0.4	10.4	1.57	12.54	2.35	0.64
S27-12-7	178-188	B21t	0.0	0.1	3.4	32.1	44.4	80.0	2.3	17.7	0.3	1.78	16.90	12.05	4.92
S27-12-8	188-229	B22t	0.0	0.1	2.4	24.9	46.3	73.7	6.9	19.4	0.2	1.68	18.46	15.69	7.48
Nobleton:															
S27-10-1	0-18	Ap	0.0	0.9	15.4	60.7	16.0	93.0	4.6	2.4	18.2	1.50	10.22	5.48	2.22
S27-10-2	18-56	A21	0.0	0.9	15.2	61.4	15.9	93.4	3.4	3.2	9.2	1.67	8.02	4.53	1.82
S27-10-3	56-84	A22	0.0	1.0	14.8	61.3	15.7	92.8	3.3	3.9	6.1	1.63	9.21	4.84	2.12
S27-10-4	84-94	B21t	0.0	0.7	11.8	49.9	13.5	75.9	3.5	20.6	0.1	1.59	20.96	17.21	7.62
S27-10-5	94-152	B22t	0.0	0.5	8.6	36.1	10.0	55.2	1.6	43.2	0.0	1.54	27.83	27.01	18.90
S27-10-6	152-203	B23tg	0.1	0.7	10.8	39.2	13.6	64.4	1.8	33.8	0.1	1.64	23.47	21.29	12.81
S27-10-7	203-216	B3g	0.2	1.7	16.0	45.0	8.6	71.5	1.5	27.0	---	---	---	---	---
Paisley:															
S27-26-1	0-18	A1	0.0	0.5	8.9	68.5	15.7	93.6	5.3	1.1	---	---	---	---	---
S27-26-2	18-33	A2	0.1	1.1	8.6	65.7	18.2	93.7	4.7	1.6	---	---	---	---	---
S27-26-3	33-43	B21tg	0.0	0.6	6.8	52.6	14.3	74.3	4.3	21.4	---	---	---	---	---
S27-26-4	43-99	B22tg	0.0	0.6	4.9	36.9	8.9	51.4	3.8	44.8	---	---	---	---	---
S27-26-5	99-173	B23tg	10.1	7.0	6.2	26.6	8.0	57.9	7.6	34.5	---	---	---	---	---
S27-26-6	173-241	Cg	3.5	2.9	4.3	27.4	7.1	45.2	4.3	50.5	---	---	---	---	---
Paola:															
S27-7-1	0-8	A1	0.0	0.5	11.7	73.9	11.5	97.6	2.4	0.0	58.5	1.25	7.98	6.13	3.16
S27-7-2	8-66	A2	0.0	0.5	11.5	75.5	11.8	99.3	0.6	0.1	41.1	1.42	4.97	2.97	1.05
S27-7-3	66-114	B&A	0.0	0.5	11.2	76.0	10.5	98.2	0.8	1.0	32.2	1.49	3.88	2.34	0.83
S27-7-4	114-163	B&A	0.0	0.5	10.1	75.9	11.9	98.4	0.4	1.2	28.6	1.52	3.59	2.11	0.56
S27-7-5	163-203	C1	0.0	0.3	10.2	77.4	11.3	99.2	0.4	0.4	36.2	1.48	3.74	2.50	0.33
S27-7-6	203-254	C2	0.0	0.4	14.4	75.5	9.1	99.4	0.1	0.5	34.2	1.49	3.91	3.03	0.42
Sparr:															
S27-29-1	0-13	A1	0.0	0.9	13.3	66.1	11.0	91.3	4.7	4.0	---	---	---	---	---
S27-29-2	13-23	A21	0.0	0.8	12.7	68.6	11.8	93.9	3.8	2.3	---	---	---	---	---
S27-29-3	23-76	A22	0.0	0.8	12.4	70.5	11.7	95.4	2.4	2.2	---	---	---	---	---
S27-29-4	76-112	A23	0.0	0.9	13.3	69.8	11.9	95.9	2.4	1.7	---	---	---	---	---
S27-29-5	112-155	A24	0.0	0.9	11.8	70.9	13.1	96.7	2.6	0.7	---	---	---	---	---
S27-29-6	155-162	B21t	0.0	0.8	8.8	58.0	11.0	78.6	3.0	18.4	---	---	---	---	---
S27-29-7	162-203	B22t	0.0	0.8	10.0	53.0	9.5	73.3	2.4	24.3	---	---	---	---	---
Tavares:															
S27-8-1	0-10	A1	0.0	1.3	21.4	68.3	6.6	97.6	1.0	1.4	54.9	1.42	4.57	1.95	0.91
S27-8-2	10-20	C1	0.0	1.5	20.7	67.7	7.6	97.5	1.1	1.4	30.6	1.44	5.00	3.49	1.07
S27-8-3	20-53	C2	0.0	1.4	20.9	69.4	6.6	98.3	0.5	1.2	30.6	1.50	3.43	2.25	0.53
S27-8-4	53-107	C3	0.0	1.7	21.9	68.6	6.0	98.2	0.5	1.3	36.5	1.56	3.46	2.30	0.48
S27-8-5	107-122	C4	0.0	1.8	19.8	70.4	6.4	98.4	0.6	1.0	41.7	1.56	3.89	3.05	0.51
S27-8-6	122-203	C5	0.0	1.9	22.2	69.0	6.1	99.2	0.1	0.7	35.2	1.58	7.54	7.00	0.60

TABLE 17.--PHYSICAL PROPERTIES OF SELECTED SOILS--Continued

Soil series and sample numbers	Depth	Horizon	Particle size distribution: Sand: VC (2-1)	Sand: C (1-.5)	Sand: M (.5-.25)	Sand: F (.25-.1)	Sand: VF (.1-.05)	Sand: Total (2-.05)	Silt: Total (.05-.002)	Clay: Total <0.002	Hydr. cond. (sat.)	Bulk density field moist.	Water content: 1/10 bar	Water content: 1/3 bar	Water content: 15 bar
	Cm		Pct of <2 mm								cm/hr	g/cc	Pct (wt)		
Wauchula:															
S27-18-1	0-8	A11	0.0	0.7	15.4	63.7	13.6	93.4	4.8	1.8	12.7	1.37	14.54	9.38	3.57
S27-18-2	8-20	A12	0.1	0.7	14.9	65.0	15.3	96.0	3.0	1.0	15.6	1.50	7.84	4.75	1.82
S27-18-3	20-61	A2	0.0	0.8	14.8	65.4	15.6	96.6	2.1	1.3	24.0	1.52	5.24	2.74	1.32
S27-18-4	61-71	B21h	0.0	1.0	13.8	63.7	14.8	93.3	0.1	6.6	7.2	1.59	8.15	5.33	1.59
S27-18-5	71-79	B22h	0.1	0.9	12.9	61.8	15.1	90.8	4.4	4.8	5.1	1.55	17.39	12.57	3.31
S27-18-6	79-86	B3&Bh	0.0	1.0	13.1	62.9	14.8	91.8	4.1	4.1	13.2	1.46	12.82	8.96	3.29
S27-18-7	86-96	A´2	0.0	1.0	12.9	62.3	14.9	91.1	3.8	5.1	8.4	1.57	10.98	7.36	2.89
S27-18-8	96-109	B´21t	0.0	1.0	13.2	56.1	12.3	82.6	1.9	15.5	1.8	1.72	13.91	11.00	4.93
S27-18-9	109-147	B´22t	0.0	0.7	11.8	52.0	10.7	75.2	1.4	23.4	0.6	1.73	17.75	15.69	9.30
S27-18-10	147-188	B´22t	0.0	0.7	10.8	51.6	10.6	73.7	0.9	25.4	0.6	1.73	17.75	15.69	9.30
S27-18-11	188-213	B´23t	0.0	0.5	9.2	49.3	8.0	67.0	0.1	32.9	0.6	1.73	22.35	20.52	15.09

TABLE 18.--CHEMICAL PROPERTIES OF SELECTED SOILS

Soil series and sample numbers	Depth	Horizon	Extractable bases: Ca	Mg	Na	K	Sum	Extr. acidity	CEC	Base sat.	Elect. cond.	pH: H_2O (1:1)	$CaCl_2$ .01M (1:2)	KCl 1N (1:1)	Organic Carbon	Citrate-Dithionite Extr.: Al	Fe
	Cm		Meq/100g							Pct	Mmho/cm				Pct	Pct	Pct
Aripeka:																	
S27-24-1	0-8	A1	3.1	1.6	0.0	0.1	4.8	3.0	7.8	62	0.10	6.2	5.6	5.4	1.58	.030	.162
S27-24-2	8-13	A2	1.2	0.6	0.0	0.1	1.9	2.1	4.0	48	0.07	6.3	5.5	5.2	0.74	.035	.182
S27-24-3	13-25	B21	0.4	0.3	0.1	0.0	0.8	1.0	1.8	44	0.05	7.0	5.9	5.4	0.32	.050	.224
S27-24-4	25-33	B22	1.4	0.5	0.1	0.0	2.0	1.0	3.0	67	0.06	7.4	6.3	6.1	0.38	.090	.354
S27-24-5	33-38	B23t	7.7	1.5	0.8	0.2	10.2	3.9	14.1	72	0.26	7.7	6.7	6.5	1.03	.330	1.475
S27-24-6	38-53	B24t	10.8	1.0	1.6	0.2	13.6	2.2	15.8	86	0.85	8.0	7.2	7.0	0.51	.270	1.375
Arredondo:																	
S27-11-1	0-20	Ap	2.8	1.0	tr	tr	3.8	5.8	9.6	40	0.06	5.4	5.0	4.8	1.43	---	---
S27-11-2	20-36	A21	1.5	0.1	0.0	tr	1.6	2.7	4.3	37	0.03	5.9	5.3	5.1	0.43	0.081	0.158
S27-11-3	36-104	A22	0.4	tr	0.0	0.0	0.4	1.2	1.6	25	0.03	6.1	5.6	5.2	0.11	0.056	0.136
S27-11-4	104-137	A23	0.1	tr	0.0	tr	0.1	0.2	0.3	33	0.02	6.1	5.7	5.5	0.20	0.031	0.098
S27-11-5	137-157	B1	0.4	tr	tr	tr	0.4	1.2	1.6	25	0.03	5.9	5.7	4.9	0.03	0.082	0.266
S27-11-6	157-175	B21t	0.9	0.2	tr	tr	1.1	2.1	3.2	34	0.04	5.8	5.6	4.8	0.07	0.162	0.619
S27-11-7	175-203	B22t	0.3	1.1	tr	tr	1.4	8.9	10.3	14	0.04	5.0	4.2	3.8	0.14	0.450	2.275
S27-11-8	203-254	B23t	0.1	0.3	tr	tr	0.4	6.1	6.5	6	0.03	5.0	4.0	3.6	0.05	0.300	1.262
Astatula:																	
S27-22-1	0-10	A1	1.4	0.2	0.0	0.0	1.6	7.0	8.6	19	0.03	5.7	4.2	3.8	0.72	---	---
S27-22-2	10-61	C1	0.8	0.1	0.0	0.0	0.9	0.9	1.8	50	0.04	6.0	5.2	4.8	0.16	---	---
S27-22-3	61-165	C2	1.1	0.1	0.0	0.0	1.2	0.4	1.6	75	0.03	5.4	5.0	4.6	0.06	---	---
S27-22-4	165-216	C3	1.1	0.2	0.0	0.0	1.3	0.3	1.6	81	0.03	5.7	4.9	4.7	0.04	---	---
Basinger:																	
S27-17-1	0-8	A1	1.1	0.1	0.1	0.1	1.4	9.4	10.8	13	0.12	4.3	3.6	3.2	2.22	0.042	0.058
S27-17-2	8-20	A2	0.1	tr	tr	tr	0.1	1.0	1.1	9	0.10	4.6	4.1	3.7	0.20	0.015	0.014
S27-17-3	20-61	A2&Bh	tr	tr	tr	tr	tr	4.8	4.8	---	0.09	5.1	4.4	4.1	0.69	0.140	0.008
S27-17-4	61-101	C1	tr	tr	tr	tr	tr	1.2	1.2	---	0.07	5.2	4.6	4.1	0.13	0.046	0.010
S27-17-5	101-203	C2	tr	tr	tr	tr	tr	0.7	0.7	---	0.06	5.2	4.5	4.2	0.07	---	---
Blichton:																	
S27-9-1	0-23	Ap	2.9	0.5	tr	tr	3.4	7.8	11.2	30	0.05	5.5	4.8	4.3	1.61	---	---
S27-9-2	23-58	A21	1.8	0.3	0.1	tr	2.2	6.7	8.9	25	0.06	5.7	5.0	4.4	0.64	0.100	0.116
S27-9-3	58-71	A22	1.4	0.4	tr	tr	1.8	4.8	6.6	27	0.08	5.5	4.8	4.1	0.22	0.081	0.213
S27-9-4	71-86	B21tg	2.2	1.7	tr	tr	3.9	12.9	16.8	23	0.06	5.1	4.1	3.3	0.28	0.150	0.544
S27-9-5	86-124	B22tg	2.1	1.5	tr	0.1	3.8	16.9	20.7	18	0.05	4.8	3.9	3.3	0.22	0.212	1.039
S27-9-6	124-160	B23tg	1.6	0.8	tr	0.1	2.5	17.9	20.4	12	0.04	4.7	3.7	3.1	0.15	0.169	0.140
S27-9-7	160-190	Cg	10.0	2.2	0.3	0.4	12.9	43.6	56.5	23	0.06	4.5	3.5	2.8	0.08	0.338	1.062
Candler:																	
S27-6-1	0-10	A1	0.4	tr	tr	tr	0.4	5.6	6.0	7	0.02	5.0	4.2	3.7	0.73	---	---
S27-6-2	10-23	A21	0.1	tr	tr	tr	0.1	2.8	2.9	3	0.02	5.3	4.6	4.0	0.34	---	---
S27-6-3	23-51	A22	tr	tr	tr	tr	tr	0.9	0.9	---	0.02	5.4	4.9	4.1	0.22	---	---
S27-6-4	51-122	A23	tr	tr	tr	tr	tr	1.1	1.1	---	0.02	5.4	5.1	4.2	0.07	---	---
S27-6-5	122-203	A2&B	tr	tr	tr	tr	tr	1.6	1.6	---	0.02	5.4	5.3	4.2	0.03	---	---

TABLE 18.--CHEMICAL PROPERTIES OF SELECTED SOILS--Continued

Soil series and sample numbers	Depth	Horizon	Extractable bases: Ca	Mg	Na	K	Sum	Extr. acidity	CEC	Base sat.	Elect. cond.	pH: H_2O (1:1)	$CaCl_2$ .01M (1:2)	KCl 1N (1:1)	Organic Carbon	Citrate-Dithionite Extr.: Al	Fe
	Cm		Meq/100g							Pct	Mmho/cm				Pct	Pct	Pct
Masaryk:																	
S27-12-1	0-8	A1	0.3	0.1	tr	tr	0.4	6.8	7.2	6	0.05	4.5	3.6	3.3	1.38	---	---
S27-12-2	8-33	A21	tr	tr	tr	0.0	tr	2.6	2.6	---	0.03	5.2	4.4	4.0	0.41	0.059	0.065
S27-12-3	33-61	A22	tr	0.0	tr	0.0	tr	1.8	1.8	---	0.02	5.3	4.7	4.2	0.22	0.050	0.053
S27-12-4	61-99	A23	tr	tr	tr	0.0	tr	0.9	0.9	---	0.02	5.3	4.8	4.1	0.09	0.038	0.060
S27-12-5	99-160	A24	tr	tr	tr	0.0	tr	0.4	0.4	---	0.03	5.7	5.3	4.4	0.02	0.025	0.045
S27-12-6	160-178	A25	tr	tr	tr	0.0	tr	0.2	0.2	---	0.02	5.8	5.4	4.5	0.02	0.025	0.036
S27-12-7	178-188	B21t	0.2	0.2	tr	tr	0.4	4.9	5.3	8	0.02	5.0	4.0	3.6	0.07	0.112	0.392
S27-12-8	188-229	B22t	0.1	0.2	0.1	tr	0.4	7.6	8.0	5	0.02	4.9	3.8	3.5	0.04	0.119	0.409
Nobleton:																	
S27-10-1	0-18	Ap	1.4	0.3	tr	0.1	1.8	1.5	3.3	54	0.05	5.6	5.0	4.7	0.60	---	---
S27-10-2	18-56	A21	0.6	0.2	tr	0.1	0.9	2.1	3.0	30	0.06	6.0	5.4	4.8	0.25	0.069	0.124
S27-10-3	56-84	A22	0.4	0.2	tr	0.1	0.7	1.9	2.6	27	0.04	6.0	5.4	4.6	0.12	0.062	0.148
S27-10-4	84-94	B21t	1.6	0.5	tr	0.1	2.2	8.0	10.2	22	0.05	5.0	4.1	3.6	0.29	0.250	1.134
S27-10-5	94-152	B22t	2.1	0.9	tr	0.1	3.1	13.5	16.6	19	0.05	4.8	3.9	3.4	0.28	0.438	2.281
S27-10-6	152-203	B23tg	0.6	0.8	tr	0.2	1.6	12.9	14.5	11	0.04	4.6	3.7	3.2	0.21	0.244	1.328
S27-10-7	203-216	B3g	0.4	0.6	tr	0.1	1.1	10.6	11.7	9	0.05	4.0	3.7	3.5	0.10	0.206	2.852
Paisley:																	
S27-26-1	0-18	A1	0.6	0.1	0.0	0.0	0.7	4.0	4.7	15	0.04	4.9	3.8	3.6	0.82	0.030	0.055
S27-26-2	18-33	A2	0.3	0.1	0.0	0.0	0.4	1.2	1.6	25	0.03	5.7	4.7	4.4	0.24	0.020	0.061
S27-26-3	33-43	B21tg	4.1	0.6	0.2	0.0	4.9	4.1	9.0	54	0.10	6.0	5.0	4.5	0.49	0.070	0.094
S27-26-4	43-99	B22tg	10.1	2.4	0.7	0.0	13.2	4.2	17.4	76	0.34	6.9	6.4	6.0	0.32	0.065	0.204
S27-26-5	99-173	B23tg	23.9	2.2	0.9	0.0	27.0	3.2	30.2	89	0.45	8.5	7.7	7.2	0.10	0.035	0.052
S27-26-6	173-241	Cg	33.3	1.4	0.2	0.1	35.0	6.3	41.3	85	0.38	8.3	7.8	7.2	0.01	0.045	0.169
Paola:																	
S27-7-1	0-8	A1	0.8	0.1	tr	tr	0.9	1.6	2.5	36	0.03	5.0	4.1	3.8	0.64	---	---
S27-7-2	8-66	A2	0.1	tr	tr	tr	0.1	4.2	4.3	2	0.02	5.3	4.6	3.8	0.15	---	---
S27-7-3	66-114	B&A	tr	tr	0.0	tr	tr	1.1	1.1	---	0.03	5.3	5.0	4.1	0.09	0.056	0.078
S27-7-4	114-162	B&A	tr	tr	tr	tr	tr	0.7	0.7	---	0.03	5.3	4.9	4.1	0.10	0.056	0.076
S27-7-5	162-203	C1	tr	0.2	tr	0.0	0.2	0.0	0.2	100	0.02	5.6	5.3	4.4	0.07	0.034	0.038
S27-7-6	203-254	C2	tr	0.0	tr	tr	tr	0.1	0.1	---	0.02	5.9	5.6	4.5	0.03	---	---
Sparr:																	
S27-29-1	0-13	A1	1.5	0.2	0.0	0.1	1.8	7.2	9.0	20	0.06	5.1	4.3	3.9	1.60	0.040	0.069
S27-29-2	13-23	A21	1.3	0.0	0.0	0.0	1.3	4.9	6.2	79	0.04	5.2	4.4	4.3	0.66	0.080	0.085
S27-29-3	23-76	A22	0.1	0.0	0.0	0.0	0.1	2.5	2.6	4	0.02	5.8	5.0	4.6	0.28	0.070	0.082
S27-29-4	76-112	A23	0.1	0.0	0.0	0.0	0.1	1.2	1.3	8	0.02	6.0	5.2	4.7	0.10	0.050	0.064
S27-29-5	112-155	A24	0.1	0.0	0.0	0.0	0.1	0.5	0.6	17	0.02	6.3	5.3	4.9	0.04	0.030	0.053
S27-29-6	155-162	B21t	0.8	1.0	0.0	0.0	1.8	5.0	6.8	26	0.04	5.5	4.6	4.1	0.10	0.140	0.424
S27-29-7	162-203	B22t	0.3	0.5	0.0	0.0	0.8	7.6	7.4	11	0.02	5.2	4.2	3.9	0.08	0.185	0.079
Tavares:																	
S27-8-1	0-10	A1	0.7	tr	tr	tr	0.7	2.4	3.1	22	0.03	5.5	4.5	3.0	0.55	---	---
S27-8-2	10-20	C1	0.2	tr	tr	tr	0.2	3.3	3.5	6	0.02	5.2	4.3	3.8	0.42	---	---
S27-8-3	20-53	C2	tr	0.0	tr	tr	tr	0.9	0.9	---	0.02	5.2	5.1	4.2	0.09	---	---
S27-8-4	53-107	C3	tr	tr	tr	tr	tr	0.6	0.6	---	0.04	5.3	5.0	4.1	0.06	---	---
S27-8-5	107-122	C4	tr	tr	0.1	tr	0.1	0.6	0.7	14	0.07	5.1	5.1	4.1	0.04	---	---
S27-8-6	122-203	C5	tr	tr	tr	tr	tr	0.6	0.6	---	0.05	5.6	5.6	4.5	0.02	---	---

TABLE 18.--CHEMICAL PROPERTIES OF SELECTED SOILS--Continued

Soil series and sample numbers	Depth	Horizon	Extractable bases: Ca	Mg	Na	K	Sum	Extr. acidity	CEC	Base sat.	Elect. cond.	pH: H_2O (1:1)	$CaCl_2$ .01M (1:2)	KCl 1N (1:1)	Organic Carbon	Citrate-Dithionite Extr.: Al	Fe
	Cm		Meq/100g							Pct	Mmho/cm				Pct	Pct	Pct
Electra Variant:																	
S27-25-1	0-8	A11	0.1	0.1	0.0	0.0	0.2	6.6	6.8	3	0.08	4.2	3.2	2.7	1.56	0.020	0.072
S27-25-2	8-13	A12	0.0	0.0	0.0	0.0	0.0	5.4	5.4	0	0.03	4.8	3.5	3.1	0.42	---	---
S27-25-3	13-61	A2	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0	0.03	6.7	4.7	4.0	0.11	---	---
S27-25-4	61-66	B21h	0.0	0.1	0.0	0.0	0.1	25.8	25.9	0	0.08	4.6	3.8	3.7	2.50	0.325	0.035
S27-25-5	66-76	B22h	0.0	0.0	0.0	0.0	0.0	23.5	23.5	0	0.06	4.7	4.2	4.1	1.90	0.435	0.026
S27-25-6	76-112	B3	0.0	0.0	0.0	0.0	0.0	5.5	5.5	0	0.03	5.4	4.5	4.4	0.43	0.170	0.031
S27-25-7	112-135	A´2	0.0	0.0	0.0	0.0	0.0	6.3	6.3	0	0.04	5.3	4.6	4.3	0.37	0.190	0.062
S27-25-8	135-186	B´21t	0.1	0.1	0.0	0.0	0.2	6.8	7.0	3	0.02	5.0	4.2	4.0	0.15	0.180	0.649
S27-25-9	186-203	B´22t	0.0	0.1	0.0	0.0	0.1	3.9	4.0	2	0.02	5.1	4.2	4.0	0.10	0.100	0.366
Flemington:																	
S27-2-1	0-8	A1	3.0	1.7	0.1	0.2	5.0	15.6	20.6	24	0.16	4.4	3.7	3.2	2.71	0.060	0.186
S27-2-2	8-23	B21tg	10.3	6.7	0.3	0.5	17.8	30.8	48.6	37	0.11	4.6	3.9	3.1	0.46	0.215	0.416
S27-2-3	23-71	B22tg	13.6	16.0	1.2	0.5	32.0	24.0	56.0	57	0.57	4.6	4.2	3.3	0.15	0.230	0.179
S27-2-4	71-119	B22tg	11.1	19.2	2.5	0.9	38.7	21.4	60.1	64	0.61	4.8	4.8	3.7	0.16	0.190	0.084
S27-2-5	119-203	B23tg	15.6	19.3	2.9	1.1	38.9	11.2	50.1	78	0.68	5.7	5.7	48	0.04	0.160	0.054
Floridana Variant:																	
S27-21-1	0-20	A11	0.2	0.1	tr	tr	0.4	10.0	10.4	4	0.13	4.6	3.9	3.5	1.63	---	---
S27-21-2	20-38	A12	0.1	tr	tr	tr	0.1	4.6	4.7	2	0.10	4.7	4.1	3.8	0.48	---	---
S27-21-3	38-45	A21	tr	tr	tr	tr	0.1	2.4	2.5	2	0.08	4.8	4.2	4.0	0.27	---	---
S27-21-4	45-56	A22	tr	tr	tr	tr	tr	0.8	0.8	0	0.07	5.2	4.5	4.2	0.03	---	---
S27-21-5	56-107	B21tg	1.0	0.5	tr	tr	1.6	13.6	15.2	11	0.07	4.8	3.8	3.2	0.10	---	---
S27-21-6	107-150	B22tg&A´2	0.5	0.3	tr	tr	0.9	7.6	8.5	10	0.05	4.9	3.7	3.2	0.06	---	---
S27-21-7	150-203	B´23tg	17.8	1.9	tr	0.1	19.9	19.0	38.9	51	0.08	4.6	3.8	3.2	0.10	---	---
Kendrick:																	
S27-13-1	0-10	A1	0.9	0.2	0.1	0.0	1.2	6.8	8.0	15	0.05	4.8	4.2	3.9	1.10	---	---
S27-13-2	10-28	A21	0.5	0.2	0.0	0.0	0.7	4.2	4.9	14	0.07	5.4	4.6	4.2	0.55	---	---
S27-13-3	28-58	A22	0.3	0.1	0.0	0.0	0.5	2.5	3.0	16	0.06	5.5	4.7	4.3	0.26	---	---
S27-13-4	58-71	A23	0.3	0.2	0.0	0.0	0.5	2.1	2.6	20	0.05	5.1	4.9	4.3	0.13	---	---
S27-13-5	71-86	B21t	0.6	0.7	0.0	0.0	1.3	3.6	4.9	27	0.07	5.0	4.7	4.2	0.16	---	---
S27-13-6	86-114	B22t	0.4	1.2	0.0	0.0	1.6	7.0	8.6	18	0.06	4.8	4.4	4.0	0.24	---	---
S27-13-7	114-160	B23t	0.1	0.4	0.0	0.0	0.4	5.6	6.0	7	0.05	4.8	4.0	3.7	0.09	---	---
S27-13-8	160-203	B3t	0.1	0.1	0.0	0.0	0.2	4.6	4.8	3	0.05	4.7	3.9	3.7	0.06	---	---
Lake:																	
S27-28-1	0-10	A11	1.1	0.2	0.0	0.0	1.3	7.2	8.5	15	0.05	5.8	5.0	4.7	0.90	---	---
S27-28-2	10-20	A12	0.9	0.2	0.0	0.0	1.1	5.8	6.9	16	0.03	6.2	5.3	4.9	0.66	---	---
S27-28-3	20-86	C1	0.4	0.1	0.0	0.0	0.5	4.2	4.7	11	0.03	6.3	5.5	5.0	0.32	---	---
S27-28-4	86-109	C2	0.1	0.1	0.0	0.0	0.2	3.2	3.4	6	0.02	5.9	5.2	4.7	0.14	---	---
S27-28-5	109-208	C3	0.6	0.2	0.0	0.0	0.8	2.5	3.3	24	0.02	6.0	5.3	4.8	0.07	---	---

TABLE 18.--CHEMICAL PROPERTIES OF SELECTED SOILS--Continued

Soil series and sample numbers	Depth	Horizon	Extractable bases: Ca	Mg	Na	K	Sum	Extr. acidity	CEC	Base sat.	Elect. cond.	pH: H_2O (1:1)	$CaCl_2$ .01M (1:2)	KCl 1N (1:1)	Organic Carbon	Citrate-Dithionite Extr.: Al	Fe
	Cm		Meq/100g							Pct	Mmho/cm				Pct	Pct	Pct
Wauchula:																	
S27-18-1	0-8	A11	0.8	0.1	0.1	tr	1.0	3.0	4.0	25	0.12	4.2	3.2	2.8	1.30	0.018	0.008
S27-18-2	8-20	A12	0.3	0.2	tr	tr	0.5	2.4	2.9	17	0.08	4.3	3.4	3.1	0.48	0.015	0.006
S27-18-3	20-61	A2	0.1	tr	tr	tr	0.1	0.2	0.3	33	0.06	5.4	4.3	3.7	0.06	0.002	0.006
S27-18-4	61-71	B21h	0.2	tr	tr	tr	0.2	3.6	3.8	5	0.07	4.7	3.6	3.3	0.43	0.036	0.006
S27-18-5	71-79	B22h	0.1	tr	tr	tr	0.1	18.9	19.0	1	0.10	4.5	3.6	3.3	1.46	0.268	0.004
S27-18-6	79-86	B3&Bh	tr	tr	tr	tr	tr	11.8	11.8	---	0.09	4.8	3.8	3.5	0.82	0.170	0.004
S27-18-7	86-96	A´2	tr	tr	tr	tr	tr	7.6	7.6	---	0.08	4.6	3.9	3.7	0.42	---	---
S27-18-8	96-109	B´21t	0.1	0.1	tr	tr	0.2	8.8	9.0	2	0.07	4.6	3.8	3.6	0.17	---	---
S27-18-9	109-147	B´22t	0.6	0.6	tr	0.1	1.3	11.0	12.3	10	0.06	4.8	3.7	3.4	0.10	---	---
S27-18-10	147-188	B´22t	1.8	1.1	0.1	0.1	3.1	9.4	12.5	25	0.07	5.2	3.9	3.3	0.04	---	---
S27-18-11	188-213	B´23t	2.8	1.5	0.1	0.1	4.5	10.6	15.1	30	0.07	5.1	3.9	3.2	0.03	---	---

TABLE 19.--CLAY MINERALOGY OF SELECTED SOILS

Soil series and sample numbers	Depth	Horizon	Percentage of clay minerals: Mont-morillonite	14Å Intergrade	Kaolinite	Gibbsite	Quartz	X-ray amorphous
	Cm							
Aripeka:								
S27-24-1	0-8	A1	0	8	3	0	89	0
S27-24-4	25-33	B22	28	48	15	0	9	0
S27-24-6	38-53	B24t	11	52	27	0	10	0
Arredondo:								
S27-11-1	0-20	Ap	0	33	56	0	11	0
S27-11-2	20-36	A21	<1	36	37	0	27	0
S27-11-4	104-137	A23	<1	41	41	0	18	0
S27-11-6	157-175	B21t	6	29	60	0	5	0
S27-11-7	175-203	B22t	17	18	54	0	11	0
S27-11-8	203-254	B23t	9	18	58	0	15	0
Astatula:								
S27-22-1	0-10	A1	0	52	28	3	17	0
S27-22-2	10-61	C1	0	39	15	40	6	0
S27-22-4	165-216	C3	10	50	20	12	8	0
Basinger:								
S27-17-1	0-8	A1	0	50	17	0	33	0
S27-17-3	20-61	A2&Bh	11	4	6	0	79	0
S27-17-5	101-203	C2	6	37	21	21	15	0
Blichton:								
S27-9-1	0-23	Ap	0	36	19	0	45	0
S27-9-2	23-58	A21	0	40	22	0	38	0
S27-9-3	58-71	A22	0	34	29	0	37	0
S27-9-4	71-86	B21tg	0	42	38	0	20	0
S27-9-5	86-124	B22tg	33	30	26	0	11	0
S27-9-6	124-160	B23tg	32	21	43	0	4	0
S27-9-7	160-190	Cg	90	4	1	0	3	0
Electra Variant:								
S27-25-1	0-8	A11	0	11	31	0	58	0
S27-25-4	61-66	B21h	0	21	34	0	45	0
S27-25-7	112-135	A´2	0	25	67	0	8	0
S27-25-9	186-203	B´22t	0	5	93	0	2	0
Flemington:								
S27-20-1	0-8	A1	63	16	7	0	14	0
S27-20-2	8-23	B21tg	75	11	6	0	8	0
S27-20-5	119-203	B23tg	91	0	0	0	7	0
Floridana Variant:								
S27-21-1	0-20	A11	0	12	11	0	77	0
S27-21-5	56-107	B21tg	20	18	49	0	13	0
S27-21-7	150-203	B´23tg	35	16	27	0	18	0
Kendrick:								
S27-13-1	0-10	A1	0	29	45	0	26	0
S27-13-6	86-114	B22t	0	14	83	0	3	0
S27-13-8	160-203	B3t	0	8	90	0	2	0
Lake:								
S27-28-1	0-10	A11	9	36	21	0	34	0
S27-28-3	20-86	C1	0	53	33	0	14	0
S27-28-5	109-203	C3	0	63	30	0	7	0
Masaryk:								
S27-12-2	8-33	A21	13	27	16	0	44	0
S27-12-5	99-160	A24	<1	36	14	0	50	0
S27-12-7	178-188	B21t	<1	39	35	0	26	0
S27-12-8	188-229	B22t	9	27	46	0	18	0

TABLE 19.--CLAY MINERALOGY OF SELECTED SOILS--Continued

Soil series and sample numbers	Depth	Horizon	Percentage of clay minerals					
			Mont-morillonite	14Å Intergrade	Kaolinite	Gibbsite	Quartz	X-ray amorphous
	Cm							
Myakka:								
S27-15-1	0-10	A1	0	<1	<1	0	<1	100
S27-15-4	61-81	B21h	<1	53	26	0	21	0
Nobleton:								
S27-10-1	0-18	Ap	<1	43	22	0	35	0
S27-10-3	56-84	A22	<1	49	30	0	21	0
S27-10-4	84-94	B21t	14	26	29	0	31	0
S27-10-5	94-152	B22t	17	21	54	0	8	0
S27-10-6	152-203	B23tg	21	20	45	0	14	0
S27-10-7	203-216	B3g	8	6	73	0	13	0
Paisley:								
S27-26-1	0-18	A1	0	16	12	0	72	0
S27-26-3	33-43	B21tg	7	12	66	0	15	0
S27-26-6	173-241	Cg	62	11	22	0	5	0
Sparr:								
S27-29-1	0-13	A1	0	39	19	0	42	0
S27-29-4	76-112	A23	0	48	20	0	32	0
S27-29-6	155-162	B21t	0	50	30	0	20	0
Wauchula:								
S27-18-1	0-8	A11	<1	0	4	0	96	0
S27-18-4	61-71	B21h	13	45	13	0	29	0
S27-18-9	109-147	B'22t	42	19	30	0	9	0
S27-18-11	188-213	B'23t	45	8	40	0	7	0

TABLE 20.--ENGINEERING TEST DATA

[Tests performed by the Florida State Department of Transportation (FDOT) in cooperation with the U.S. Bureau of Public Roads, in accordance with standard procedures of the American Association of State Highway and Transportation Officials (AASHTO) (1)]

Soil name and location	Parent material	FDOT Report No.	Depth	Moisture-density data [1]: Maximum dry density	Moisture-density data [1]: Optimum moisture content	Mechanical analysis [2] — Percentage passing sieve--: No. 4 (4.76 mm)	No. 10 (2.0 mm)	No. 40 (0.42 mm)	No. 200 (0.074 mm)	Percentage smaller than--: 0.05 mm	0.02 mm	0.005 mm	0.002 mm	Liquid limit	Plasticity index	Classification: AASHTO [3]	Classification: Unified [4]
			In	Pcf	Pct												
Aripeka fine sand: About 0.4 mile north of Hernando Beach Church, E1/4W1/4 sec. 7, T. 23 S., R. 17 E.	Sandy or loamy marine sediments over limestone	37	3-5	106.5	12.7	100	100	94	8	6	3	1	0	---	[4]NP	A-3(0)	SP-SM[5]
		38	13-21	113.5	14.4	100	100	95	22	20	18	13	12	24	6	A-2-4(0)	SM-SC
Arredondo fine sand: About 1/4 mile west of FL-581 and 1/4 mile south of small blacktop road on Chinsegut Beef Cattle Research Center, NE1/4SW1/4 sec. 36, T. 21 S., R. 19 E.	Sandy or loamy marine sediments	9	8-41	107.5	11.3	100	100	98	8	6	3	2	1	---	NP	A-3(0)	SP-SM
		10	41-54	105.4	11.0	100	100	98	6	4	2	1	1	---	NP	A-3(0)	SP-SM
Astatula fine sand: About .3 mile south of FL-50 and .6 mile west of power transmission line, SE1/4NW1/4 sec. 33, T. 22 S., R. 18 E.	Marine or eolian sediments	34	24-65	105.2	8.9	100	100	98	2	2	1	0	0	---	NP	A-3(0)	SP
Basinger fine sand: About .4 mile south of Spring Hill entrance and .2 mile northwest of U.S. 19; SW1/4NW1/4 sec. 29, T. 23 S., R. 17 E.	Sandy marine sediments	23	8-24	106.0	14.3	100	100	96	4	0	0	0	0	---	NP	A-3(0)	SP
		24	40-80	106.0	13.7	100	100	95	2	0	0	0	0	---	NP	A-3(0)	SP
Blichton loamy fine sand: About 25 yards south of Highway 476 and 50 yards west of U.S. 41; NW1/4NE1/4 sec 30, T. 21 S., R. 20 E.	Loamy marine sediments	7	9-28	114.5	11.4	100	100	97	18	12	5	4	0	---	NP	A-2-4(0)	SM
Candler fine sand: About 3 miles east of junction FL-19 and FL-50 about 100 yards south of FL-50, NE1/4NE1/4 sec. 32, T. 22 S., R. 19 E.	Marine or eolian sediments	1	4-48	106.6	13.4	100	100	96	3	3	1	1	0	---	NP	A-3(0)	SP
		2	48-100	105.5	13.2	100	100	97	3	2	1	1	0	---	NP	A-3(0)	SP

See footnotes at end of table.

TABLE 20.--ENGINEERING TEST DATA--Continued

Soil name and location	Parent material	FDOT Report No.	Depth	Moisture-density data [1]: Maximum dry density	Moisture-density data [1]: Optimum moisture content	Mechanical analysis [2]: Percentage passing sieve--: No. 4 (4.76 mm)	No. 10 (2.0 mm)	No. 40 (0.42 mm)	No. 200 (0.074 mm)	Percentage smaller than--: 0.05 mm	0.02 mm	0.005 mm	0.002 mm	Liquid limit	Plasticity index	Classification: AASHTO [3]	Unified [4]
			In	Pcf	Pct												
Electra Variant fine sand: About 3/4 mile south of north section line and 10 feet west of trail, NE1/4SW1/4 sec. 3, T. 23 S., R. 19 E.	Sandy and loamy marine sediments	39	5-24	117.6	14.4	100	100	98	4	3	1	0	0	----	NP	A-3(0)	SP
		40	24-30	100.8	16.1	100	100	99	11	7	3	3	1	----	NP	A-2-4(0)	SP-SM
		41	73-80	112.0	14.4	100	100	99	34	33	31	28	28	25	13	A-2-6(1)	SC
Flemington fine sandy loam: About 1.6 miles south of FL-577 and 0.75 mile west of Seaboard Coast Line Railroad, NE1/4SW1/4 sec. 3, T. 22 S., R. 19 E.	Fine textured marine sediments	31	9-47	78.0	26.5	100	100	94	66	65	59	52	49	72	60	A-7(20)	CH
Floridana Variant loamy fine sand: About 1 mile south of FL-50 and 300 feet east of California Street, SW1/4SW1/4 sec. 36, T. 22 S., R. 18 E.	Sandy and loamy marine sediments	32	0-15	100.8	17.8	100	100	99	35	0	0	0	0	----	NP	A-2-4(0)	SM
		33	42-59	113.5	13.9	100	100	99	42	36	28	23	21	27	13	A-6(2)	SC
Kendrick fine sand: About 1.1 mile south of FL-572 and 50 yards east of Handcock Lake road, SE1/4SW1/4 sec. 31, T. 23 S., R. 20 E.	Loamy marine sediments	13	4-23	113.0	12.6	100	100	98	12	9	5	4	2	----	NP	A-2-4(0)	SP-SM
		14	45-80	110.7	16.5	100	100	98	35	34	30	26	23	29	16	A-2-6(1)	SC
Lake fine sand: About 1/2 mile north of FL-476, NW1/4NE1/4 sec. 22, T. 21 S., R. 20 E.	Sandy marine or eolian sediments	46	8-34	108.9	12.9	100	100	98	7	6	5	2	1	----	NP	A-3(0)	SP-SM
Masaryk very fine sand: About 1 1/4 miles west of U.S. 41 and 1 mile north of Powell Road, SE1/4SW1/4 sec. 1, T. 23 S., R. 18 E.	Sandy marine or eolian sediments	11	3-24	107.1	12.9	100	100	100	29	17	3	1	1	----	NP	A-2-4(0)	SM
		12	24-70	104.8	13.4	100	100	100	26	15	2	1	0	----	NP	A-2-4(0)	SM

See footnotes at end of table.

TABLE 20.--ENGINEERING TEST DATA--Continued

Soil name and location	Parent material	FDOT Report No.	Depth	Moisture-density data [1]: Maximum dry density	Moisture-density data [1]: Optimum moisture content	Mechanical analysis [2]: Percentage passing sieve--: No. 4 (4.76 mm)	No. 10 (2.0 mm)	No. 40 (0.42 mm)	No. 200 (0.074 mm)	Percentage smaller than--: 0.05 mm	0.02 mm	0.005 mm	0.002 mm	Liquid limit	Plasticity index	Classification: AASHTO [3]	Unified [4]
			In	Pcf	Pct												
Nobleton fine sand: About 0.6 mile north of Government Road and 100 feet west of U.S. 41, SE1/4NW1/4 sec. 30, T. 21 S., R. 20 E.	Loamy marine sediments	8	7-33	112.3	10.6	100	100	98	13	10	7	3	0	---	NP	A-2-4(0)	SM
Paisley fine sand: About 20 feet west of Clay Sink Road, 0.1 mile south of junction with FL-50, NE1/4NE1/4 sec. 8, T. 23 S., R. 22 E.	Clayey marine sediments	42	7-13	106.7	12.2	100	100	98	12	8	4	1	1	---	NP	A-2-4(0)	SP-SM
		43	17-39	99.2	14.1	100	100	99	45	43	40	37	36	44	29	A-7(8)	SC
Paola fine sand: About 3/4 mile south of intersection FL-50 and U.S. 19, 1/4 mile east of paved road, NE1/4SW1/4 sec. 2, T. 23 S., R. 17 E.	Sandy marine or eolian sediments	3	3-26	102.1	14.0	100	100	98	1	1	1	0	0	---	NP	A-3(0)	SP
		4	26-64	105.2	13.2	100	100	99	3	2	1	0	0	---	NP	A-3(0)	SP
Sparr fine sand: About 200 feet south of FL-476 and 30 feet east of trail road, NE1/4SE1/4 sec. 23, T. 21 S., R. 20 E.	Sandy and loamy marine sediments	47	9-30	109.3	12.0	100	100	98	8	5	3	0	0	---	NP	A-3(0)	SP-SM
		48	64-75	111.5	15.2	100	100	98	28	26	24	21	21	25	11	A-2-6(1)	SC
Tavares fine sand: About 200 yards south of FL-595 and 0.4 mile west of junction FL-595 and U.S. 19, NW1/4NW1/4 sec. 29, T. 23 S., R. 17 E.	Sandy marine or eolian sediments	5	8-48	107.1	13.5	100	100	96	2	2	1	0	0	---	NP	A-3(0)	SP
		6	48-80	105.4	9.6	100	100	96	1	0	0	0	0	---	NP	A-3(0)	SP
Wauchula fine sand: About 150 feet east of FL-581 and .7 mile south of junction FL-572 and FL-581, NE1/4SE1/4 sec. 14, T. 23 S., R. 19 E.	Sandy and loamy marine sediments	25	8-24	103.4	14.0	100	100	98	10	5	0	0	0	---	NP	A-3(0)	SP-SM
		26	24-31	108.9	12.9	100	100	98	13	0	0	0	0	---	NP	A-2-4(0)	SM
		27	43-74	115.7	13.6	100	100	99	27	24	20	17	17	---	NP	A-2-4(0)	SM

1/Based on AASHTO Designation T99-70 (1).

2/Mechanical analyses according to AASHTO Designation T88-70 (1). Results by this procedure differ somewhat from results obtained by the soil survey procedure of the Soil Conservation Service (SCS). In the AASHTO procedure, the fine material is analyzed by the hydrometer method and the various grain-size fractions are calculated on the basis of all the material, including that coarser than 2 millimeters in diameter. In the SCS soil survey procedure, the fine material is analyzed by the pipette method and the material coarser than 2 millimeters in diameter is excluded from calculations of grain-size fractions. The mechanical analyses used in this table are not suitable for use in naming textural classes for soil.

3/Based on AASHTO Designation M 145-66 (1).

4/Nonplastic.

5/SCS and BPR have agreed to consider that all soils having plasticity indexes within two points of A-line are to be given a borderline classification. An example of borderline classification is SP-SM.

TABLE 21.--CLASSIFICATION OF THE SOILS

[An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics of this taxadjunct that are outside the range of the series]

Soil name	Family or higher taxonomic class
Adamsville	Hyperthermic, uncoated Aquic Quartzipsamments
Anclote	Sandy, siliceous, hyperthermic Typic Haplaquolls
Arents	Arents
Aripeka	Fine-loamy, siliceous, hyperthermic Aquic Hapludalfs
Arredondo	Loamy, siliceous, hyperthermic Grossarenic Paleudults
Astatula	Hyperthermic, uncoated Typic Quartzipsamments
Basinger	Siliceous, hyperthermic Spodic Psammaquents
Blichton	Loamy, siliceous, hyperthermic Arenic Plinthic Paleaquults
Candler	Hyperthermic, uncoated Typic Quartzipsamments
Delray	Loamy, mixed, hyperthermic Grossarenic Argiaquolls
EauGallie	Sandy, siliceous, hyperthermic Alfic Haplaquods
Electra Variant	Sandy, siliceous, hyperthermic Ultic Haplohumods
Flemington	Very-fine, montmorillonitic, hyperthermic Typic Albaqualfs
Floridana	Loamy, siliceous, hyperthermic Arenic Argiaquolls
Floridana Variant	Loamy, siliceous, hyperthermic Typic Umbraqualfs
Homosassa	Sandy, siliceous, hyperthermic Typic Sulfaquents
Hydraquents	Hydraquents
Kanapaha	Loamy, siliceous, hyperthermic Grossarenic Paleaquults
Kendrick	Loamy, siliceous, hyperthermic Arenic Paleudults
Lacoochee	Siliceous, hyperthermic, shallow Spodic Psammaquents
Lake	Hyperthermic, coated Typic Quartzipsamments
Lauderhill	Euic, hyperthermic Lithic Medisaprists
Masaryk	Coarse-loamy, siliceous, hyperthermic Typic Paleudults
Micanopy	Fine, mixed, hyperthermic Aquic Paleudalfs
Myakka	Sandy, siliceous, hyperthermic Aeric Haplaquods
Nobleton	Clayey, mixed, hyperthermic Aquic Arenic Paleudults
Okeelanta	Sandy or sandy-skeletal, siliceous, euic, hyperthermic Terric Medisaprists
Paisley	Fine, montmorillonitic, hyperthermic Typic Albaqualfs
Paola	Hyperthermic, uncoated Spodic Quartzipsamments
Pineda	Loamy, siliceous, hyperthermic Arenic Glossaqualfs
*Pomello	Sandy, siliceous, hyperthermic Arenic Haplohumods
Pompano	Siliceous, hyperthermic Typic Psammaquents
Quartzipsamments, shaped	Quartzipsamments
Samsula	Sandy or sandy-skeletal, siliceous, dysic, hyperthermic Terric Medisaprists
Sparr	Loamy, siliceous, hyperthermic Grossarenic Paleudults
Tavares	Hyperthermic, uncoated Typic Quartzipsamments
Terra Ceia	Euic, hyperthermic Typic Medisaprists
Udalfic Arents	Udalfic Arents
Wabasso	Sandy, siliceous, hyperthermic Alfic Haplaquods
Wauchula	Sandy, siliceous, hyperthermic Ultic Haplaquods
Weekiwachee	Euic, hyperthermic Typic Sulfihemists
Williston	Fine, mixed, hyperthermic Typic Hapludalfs
Williston Variant	Fine, mixed, hyperthermic, shallow Typic Hapludalfs

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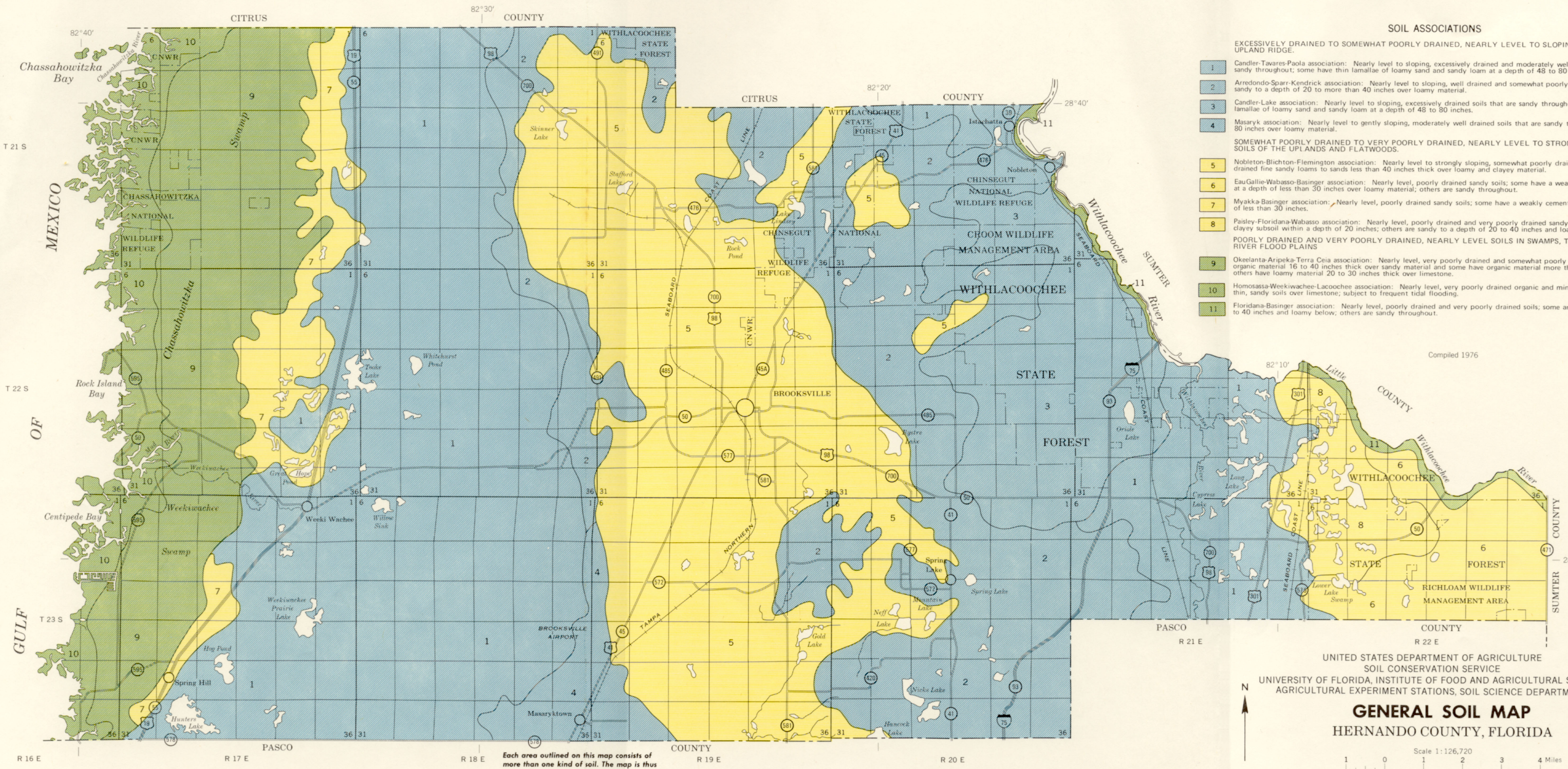


SOIL ASSOCIATIONS

EXCESSIVELY DRAINED TO SOMEWHAT POORLY DRAINED, NEARLY LEVEL TO SLOPING SOILS OF THE UPLAND RIDGE.

1 Candler-Tavares-Paola association: Nearly level to sloping, excessively drained and moderately well drained soils that are sandy throughout; some have thin lamallae of loamy sand and sandy loam at a depth of 48 to 80 inches.

2 Arredondo-Sparr-Kendrick association: Nearly level to sloping, well drained and somewhat poorly drained soils that are sandy to a depth of 20 to more than 40 inches over loamy material.

3 Candler-Lake association: Nearly level to sloping, excessively drained soils that are sandy throughout; some have thin lamallae of loamy sand and sandy loam at a depth of 48 to 80 inches.

4 Masaryk association: Nearly level to gently sloping, moderately well drained soils that are sandy to a depth of 40 to 80 inches over loamy material.

SOMEWHAT POORLY DRAINED TO VERY POORLY DRAINED, NEARLY LEVEL TO STRONGLY SLOPING SOILS OF THE UPLANDS AND FLATWOODS.

5 Nobleton-Blichton-Flemington association: Nearly level to strongly sloping, somewhat poorly drained and poorly drained fine sandy loams to sands less than 40 inches thick over loamy and clayey material.

6 EauGallie-Wabasso-Basinger association: Nearly level, poorly drained sandy soils; some have a weakly cemented layer at a depth of less than 30 inches over loamy material; others are sandy throughout.

7 Myakka-Basinger association: Nearly level, poorly drained sandy soils; some have a weakly cemented layer at a depth of less than 30 inches.

8 Paisley-Floridana-Wabasso association: Nearly level, poorly drained and very poorly drained sandy soils; some have a clayey subsoil within a depth of 20 inches; others are sandy to a depth of 20 to 40 inches and loamy below.

POORLY DRAINED AND VERY POORLY DRAINED, NEARLY LEVEL SOILS IN SWAMPS, TIDAL MARSHES, AND RIVER FLOOD PLAINS

9 Okeelanta-Aripeka-Terra Ceia association: Nearly level, very poorly drained and somewhat poorly drained soils; some have organic material 16 to 40 inches thick over sandy material and some have organic material more than 52 inches thick; others have loamy material 20 to 30 inches thick over limestone.

10 Homosassa-Weekiwachee-Lacoochee association: Nearly level, very poorly drained organic and mineral soils and poorly drained, thin, sandy soils over limestone; subject to frequent tidal flooding.

11 Floridana-Basinger association: Nearly level, poorly drained and very poorly drained soils; some are sandy to a depth of 20 to 40 inches and loamy below; others are sandy throughout.

Compiled 1976

SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.

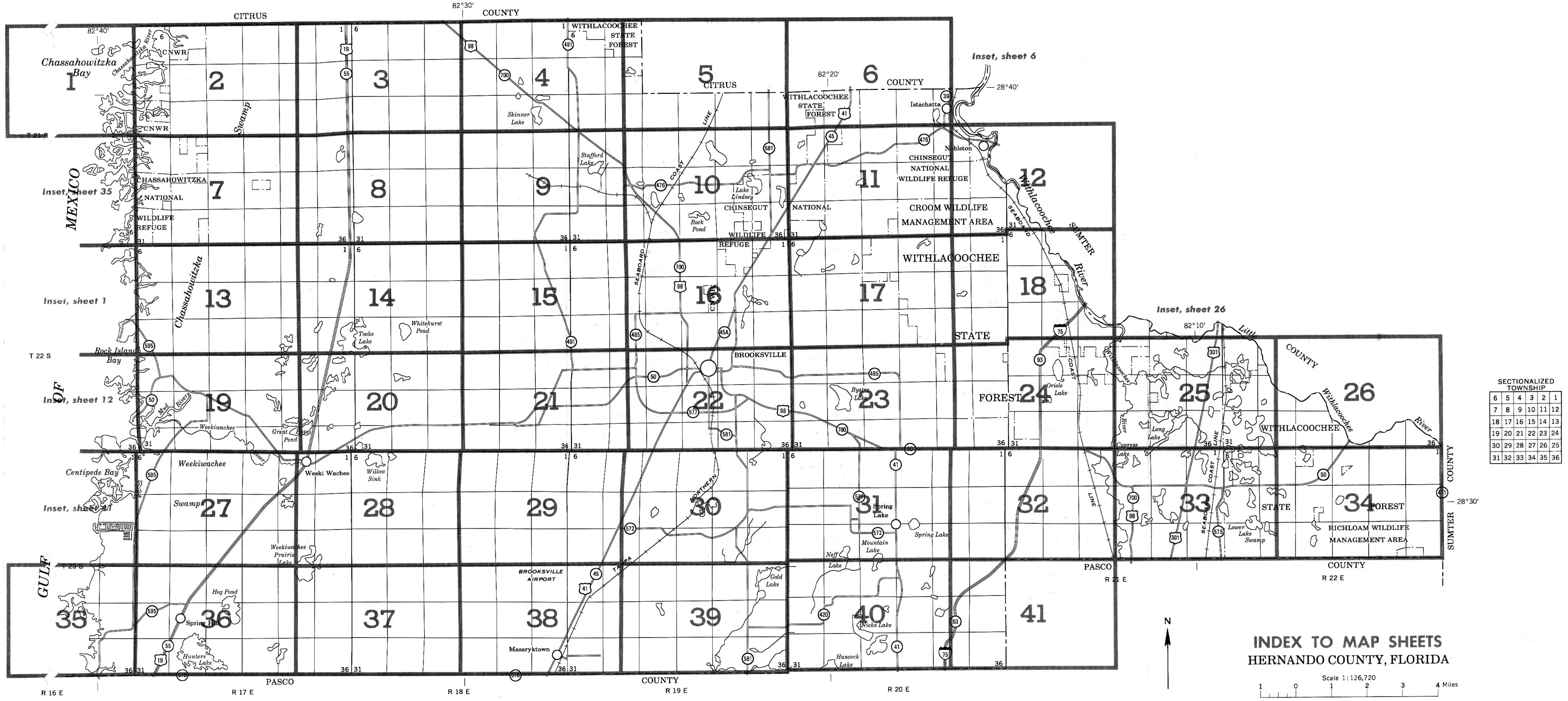
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
UNIVERSITY OF FLORIDA, INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES
AGRICULTURAL EXPERIMENT STATIONS, SOIL SCIENCE DEPARTMENT

GENERAL SOIL MAP

HERNANDO COUNTY, FLORIDA

Scale 1:126,720

1 0 1 2 3 4 Miles



INDEX TO MAP SHEETS
HERNANDO COUNTY, FLORIDA

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

- National, state or province
- County or parish
- Minor civil division
- Reservation (national forest or park, state forest or park, and large airport)
- Land grant
- Limit of soil survey (label)
- Field sheet matchline & neatline

AD HOC BOUNDARY (label)

- Small airport, airfield, park, oilfield, cemetery, or flood pool (Davis Airstrip; FLOOD POOL LINE)

STATE COORDINATE TICK

LAND DIVISION CORNERS (sections and land grants)

ROADS

- Divided (median shown if scale permits)
- Other roads
- Trail

ROAD EMBLEMS & DESIGNATIONS

- Interstate (79)
- Federal (410)
- State (52)
- County, farm or ranch (378)

RAILROAD

POWER TRANSMISSION LINE (normally not shown)

PIPE LINE (normally not shown)

FENCE (normally not shown)

LEVEES

- Without road
- With road
- With railroad

DAMS

- Large (to scale)
- Medium or small (water; w)

PITS

- Gravel pit
- Mine or quarry

MISCELLANEOUS CULTURAL FEATURES

- Farmstead, house (omit in urban areas)
- Church
- School
- Indian mound (label) (Indian Mound)
- Located object (label) (Tower)
- Tank (label) (GAS)
- Wells, oil or gas
- Windmill
- Kitchen midden

WATER FEATURES

DRAINAGE

- Perennial, double line
- Perennial, single line
- Intermittent
- Drainage end
- Canals or ditches
  - Double-line (label) (CANAL)
  - Drainage and/or irrigation

LAKES, PONDS AND RESERVOIRS

- Perennial (water; w)
- Intermittent (int; i)

MISCELLANEOUS WATER FEATURES

- Marsh or swamp
- Spring
- Well, artesian
- Well, irrigation
- Wet spot

SPECIAL SYMBOLS FOR SOIL SURVEY

SOIL DELINEATIONS AND SYMBOLS (CeA; FoB2)

ESCARPMENTS

- Bedrock (points down slope)
- Other than bedrock (points down slope)

SHORT STEEP SLOPE

GULLY

DEPRESSION OR SINK

SOIL SAMPLE SITE (normally not shown)

MISCELLANEOUS

- Blowout
- Clay spot
- Gravelly spot
- Gumbo, slick or scabby spot (sodic)
- Dumps and other similar non soil areas
- Prominent hill or peak
- Rock outcrop (includes sandstone and shale)
- Saline spot
- Sandy spot
- Severely eroded spot
- Slide or slip (tips point upslope)
- Stony spot, very stony spot

SOIL LEGEND

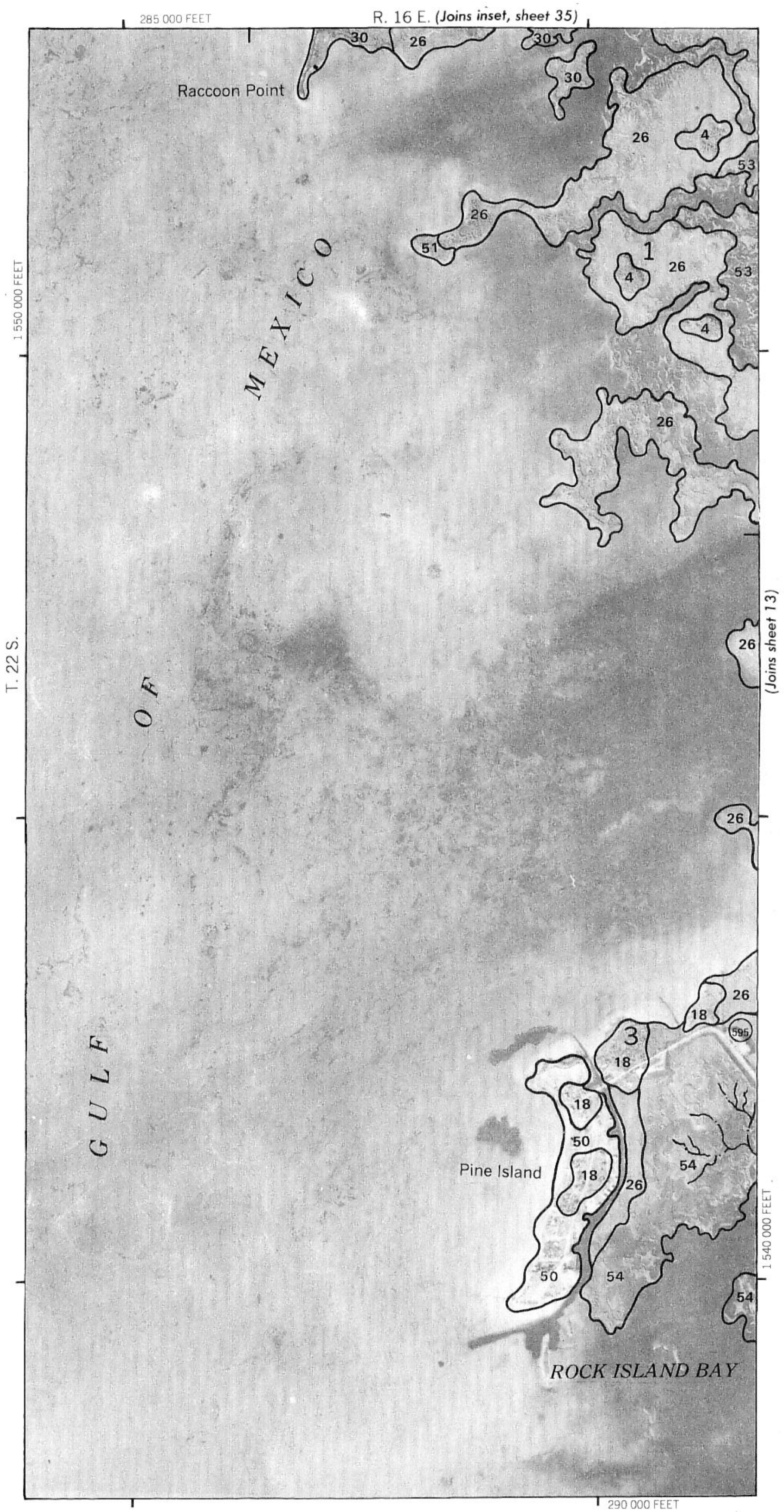
The legend is numeric. Soil names followed by the superscript 1/ are broadly defined units. The composition of these units is more variable than that of the other units in the survey area, but has been controlled well enough to be interpreted for the expected use of the soils.

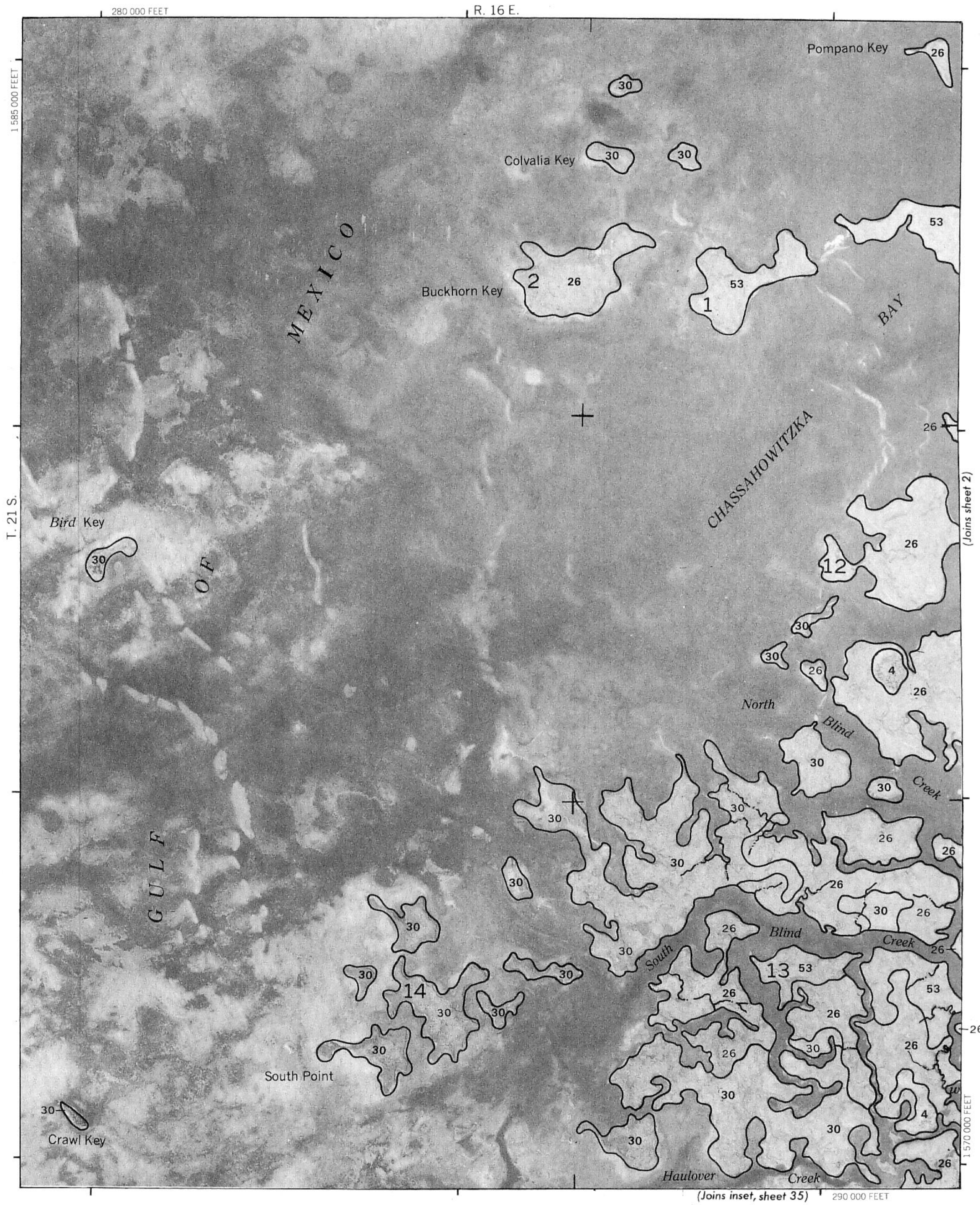
SYMBOL	NAME
1	Adamsville fine sand
2	Anclote fine sand
3	Arents-Urban land complex 1/
4	Aripeka fine sand
5	Aripeka-Okeelanta-Lauderhill association 1/
6	Arredondo fine sand, 0 to 5 percent slopes
7	Arredondo fine sand, 5 to 8 percent slopes
8	Astatula fine sand, 0 to 8 percent slopes
9	Basinger fine sand
10	Basinger fine sand, depressional
11	Blichton loamy fine sand, 0 to 2 percent slopes
12	Blichton loamy fine sand, 2 to 5 percent slopes
13	Blichton loamy fine sand, 5 to 8 percent slopes
14	Candler fine sand, 0 to 5 percent slopes
15	Candler fine sand, 5 to 8 percent slopes
16	Candler-Urban land complex
17	Delray fine sand
18	EauGallie fine sand
19	Electra Variant fine sand, 0 to 5 percent slopes
20	Flemington fine sandy loam, 0 to 2 percent slopes
21	Flemington fine sandy loam, 2 to 5 percent slopes
22	Flemington fine sandy loam, 8 to 12 percent slopes
23	Floridana fine sand
24	Floridana-Basinger association, occasionally flooded 1/
25	Floridana Variant loamy fine sand
26	Homosassa mucky fine sandy loam
27	Hydraquents 1/
28	Kanapaha fine sand
29	Kendrick fine sand, 0 to 5 percent slopes
30	Lacoochee fine sandy loam
31	Lake fine sand, 0 to 5 percent slopes
32	Masaryk very fine sand, 0 to 5 percent slopes
33	Micanopy loamy fine sand, 0 to 2 percent slopes
34	Micanopy loamy fine sand, 2 to 5 percent slopes
35	Myakka fine sand
36	Nobleton fine sand, 0 to 5 percent slopes
37	Okeelanta-Terra Ceia association 1/
38	Paisley fine sand
39	Paola fine sand, 0 to 8 percent slopes
40	Pineda fine sand
41	Pits
42	Pits-Dumps complex
43	Pomello fine sand, 0 to 5 percent slopes
44	Pompano fine sand
45	Quartzipsamments, shaped, 0 to 5 percent slopes 1/
46	Samsula muck
47	Sparr fine sand, 0 to 5 percent slopes
48	Sparr fine sand, 5 to 8 percent slopes
49	Tavares fine sand, 0 to 5 percent slopes
50	Udalfic Arents-Urban land complex 1/
51	Wabasso fine sand
52	Wauchula fine sand, 0 to 5 percent slopes
53	Weekiwachee muck
54	Weekiwachee-Homosassa association 1/
55	Williston loamy fine sand, 2 to 5 percent slopes
56	Williston Variant loamy fine sand, 2 to 5 percent slopes

1/ The composition of these units is more variable than that of others in the survey area, but has been controlled well enough to be interpreted for the expected use of the soils.

HERNANDO COUNTY, FLORIDA NO. 1

This map is compiled on 1973 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies. Coordinate grid ticks and land division corners, if shown, are approximately positioned.





N

1 Mile
5000 Feet
Scale 1:20000

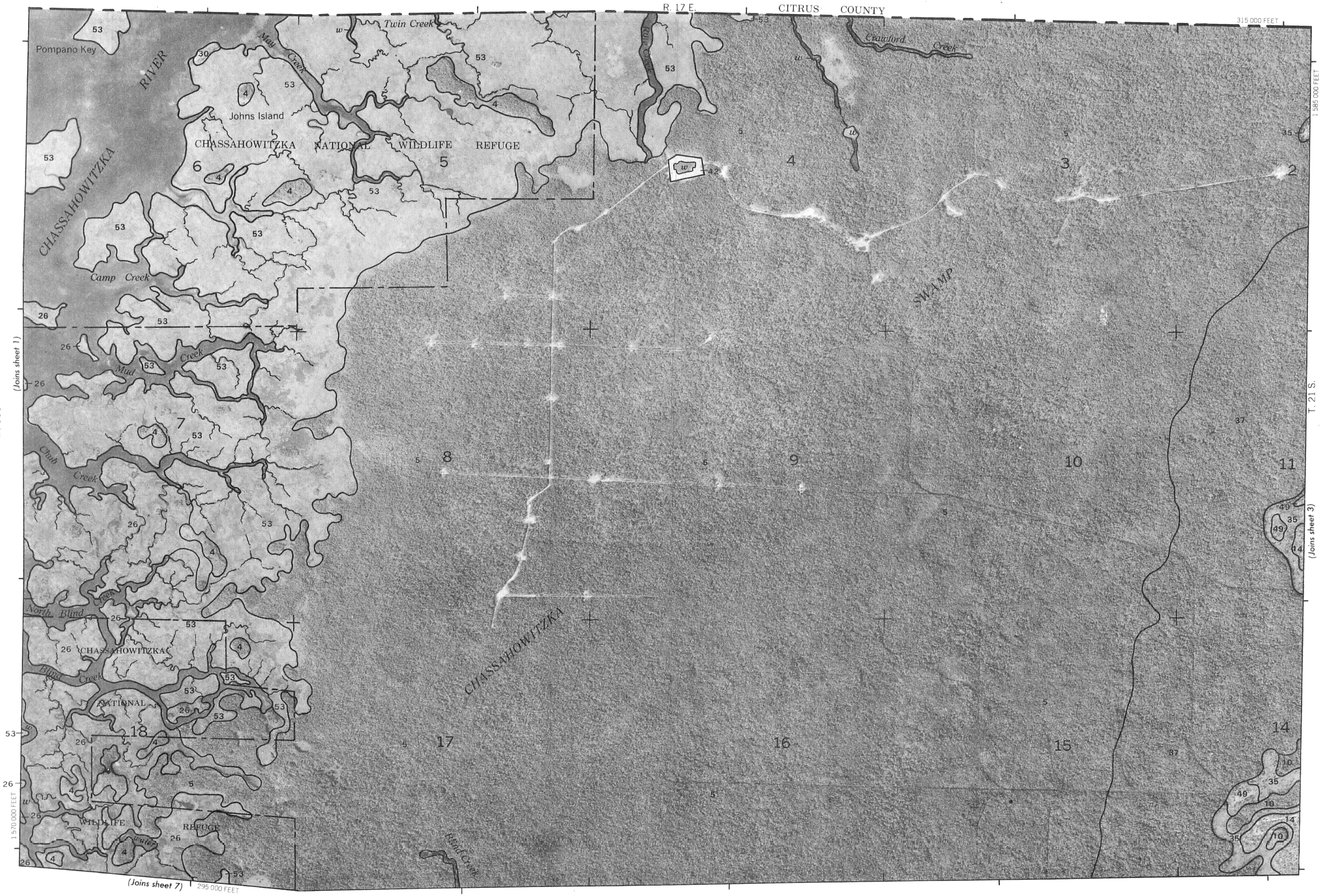
2

N

Scale 1:20000

1 Mile

5000 Feet



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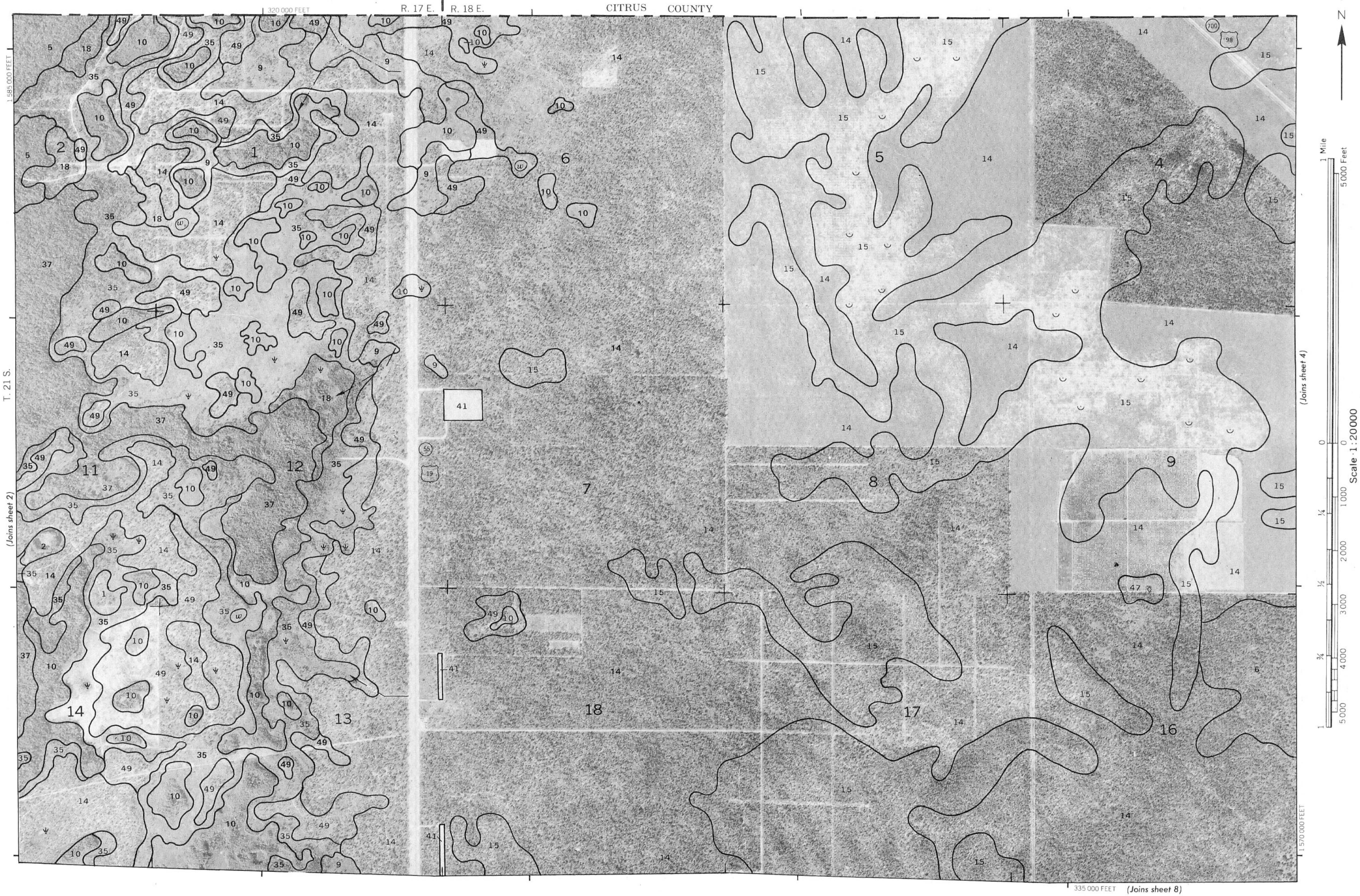

This map is compiled on 1973 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

HERNANDO COUNTY, FLORIDA — SHEET NUMBER 4

4

N

1 Mile

5000 Feet

Scale 1:20000

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HERNANDO COUNTY, FLORIDA NO. 4

HERNANDO COUNTY, FLORIDA NO. 5

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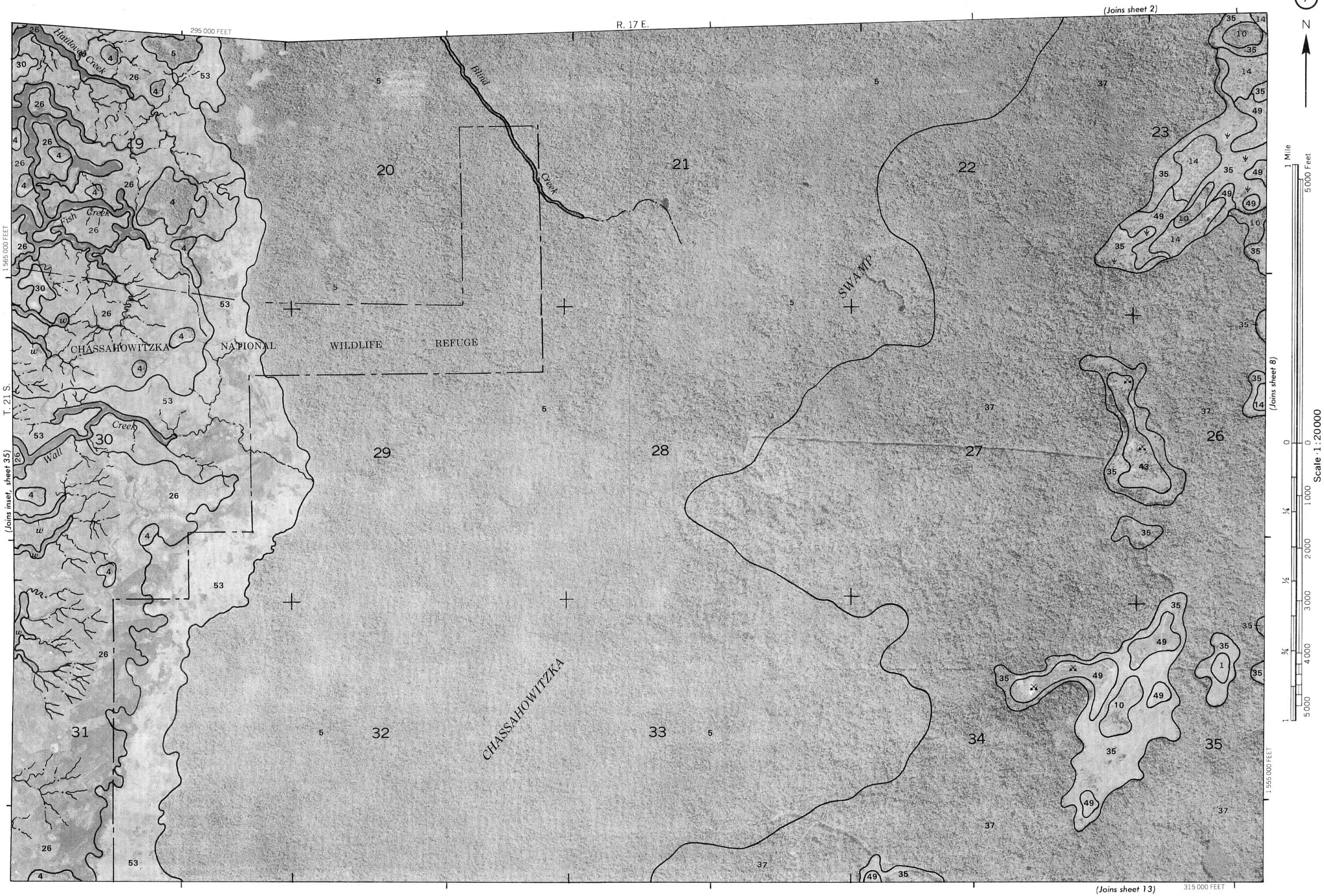
HERNANDO COUNTY, FLORIDA NO. 6



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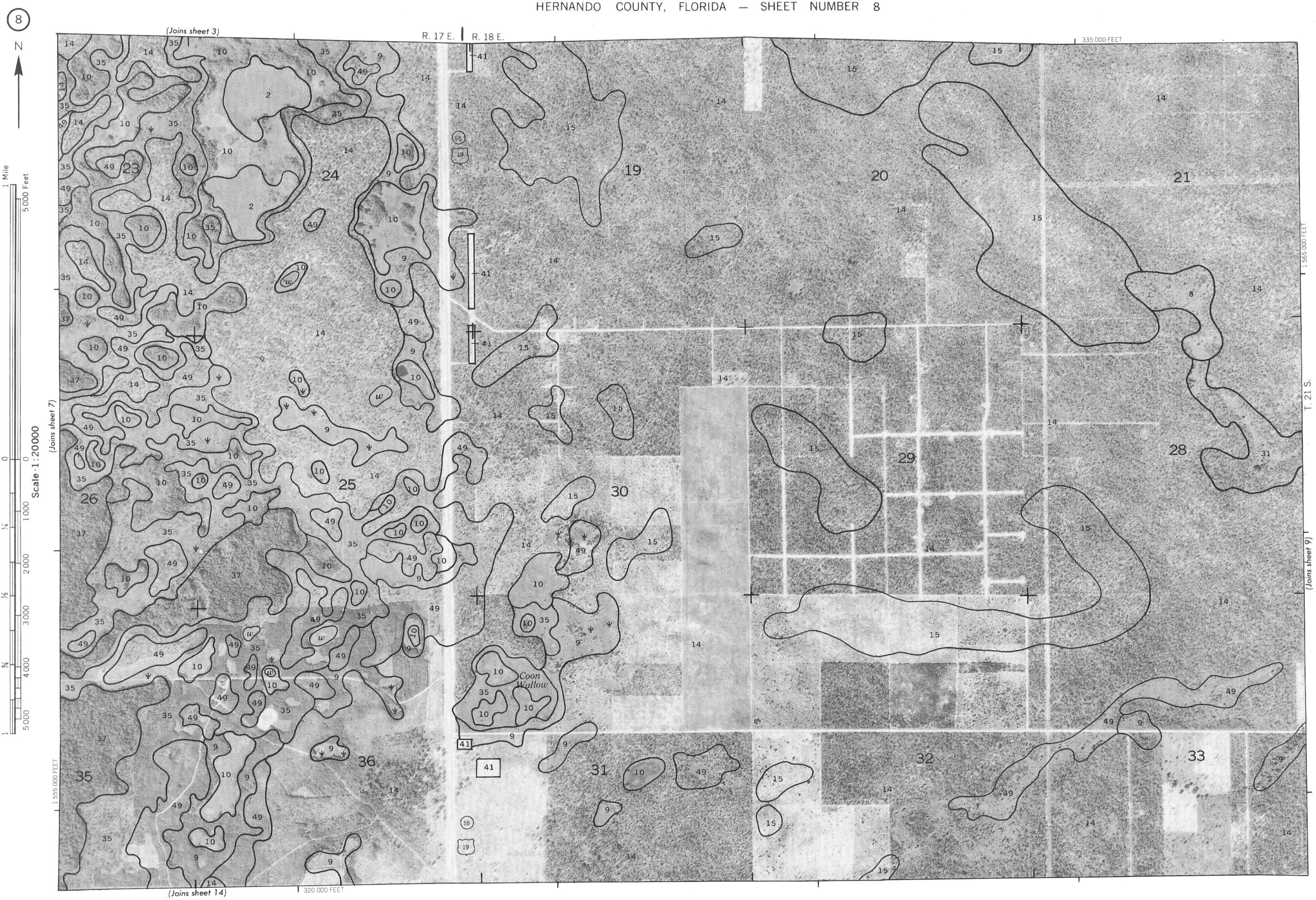

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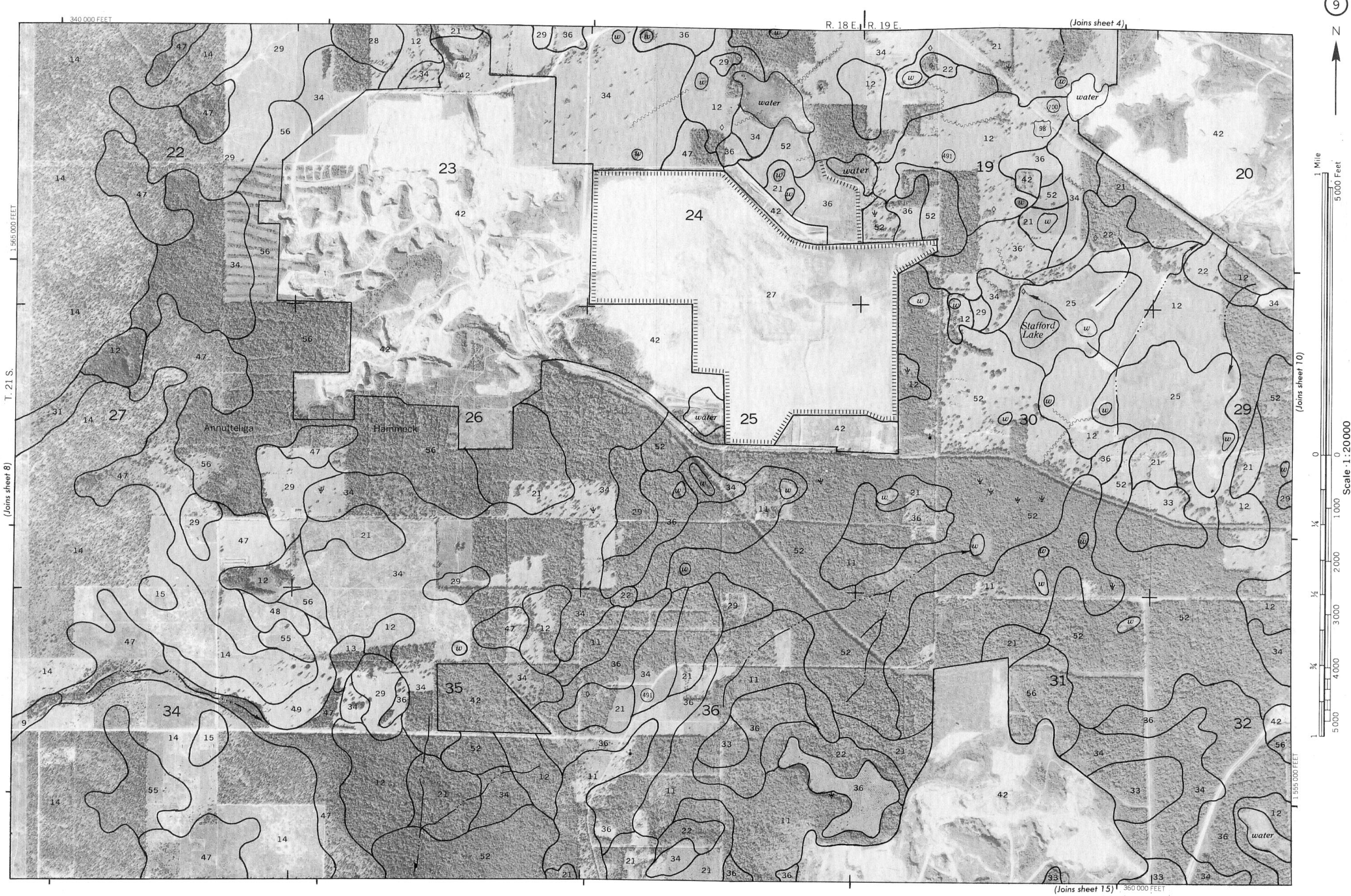
HERNANDO COUNTY, FLORIDA NO. 8



HERNANDO COUNTY, FLORIDA NO. 9

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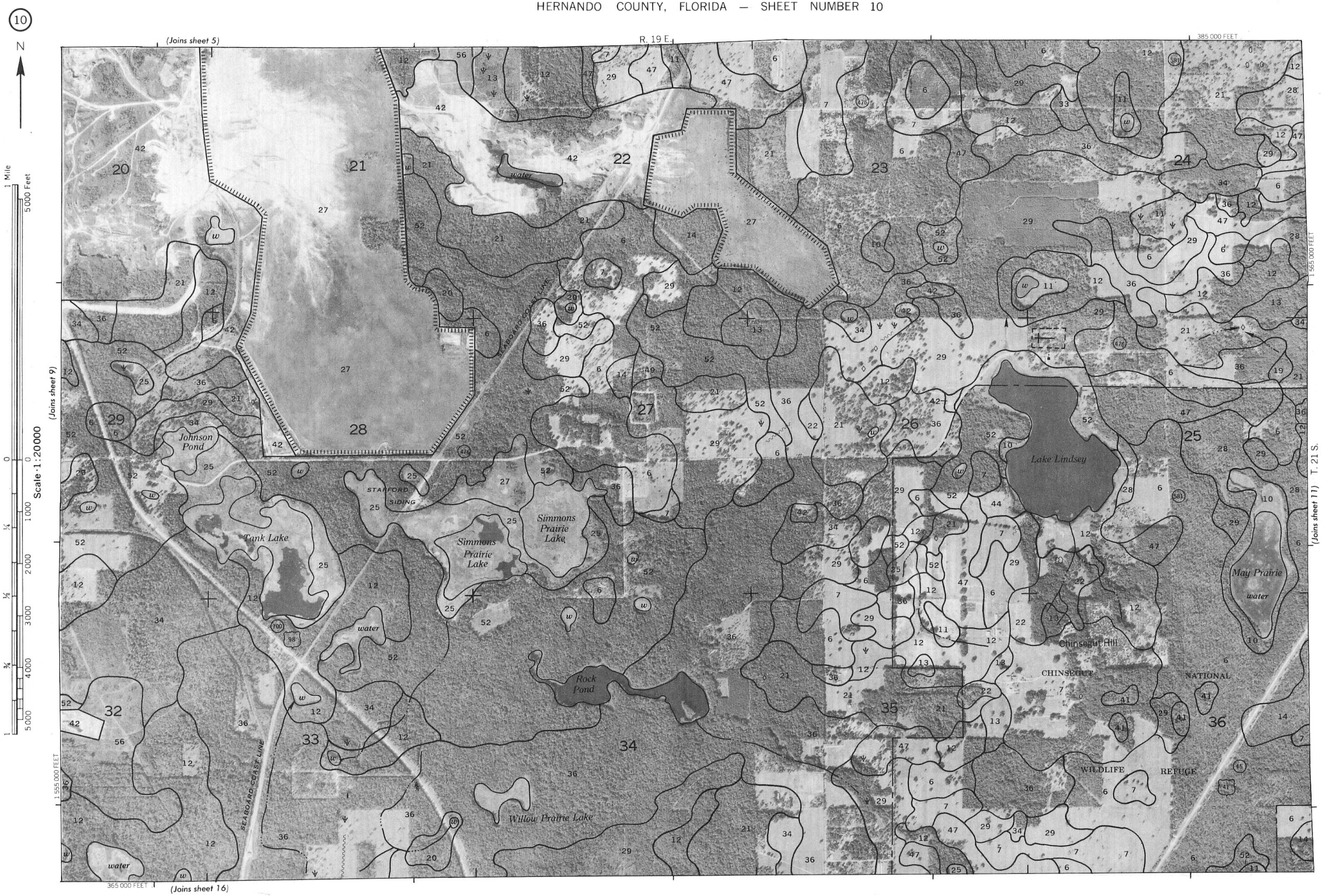
HERNANDO COUNTY, FLORIDA — SHEET NUMBER 10



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HERNANDO COUNTY, FLORIDA NO. 10

HERNANDO COUNTY, FLORIDA — SHEET NUMBER 11

HERNANDO COUNTY, FLORIDA NO. 11

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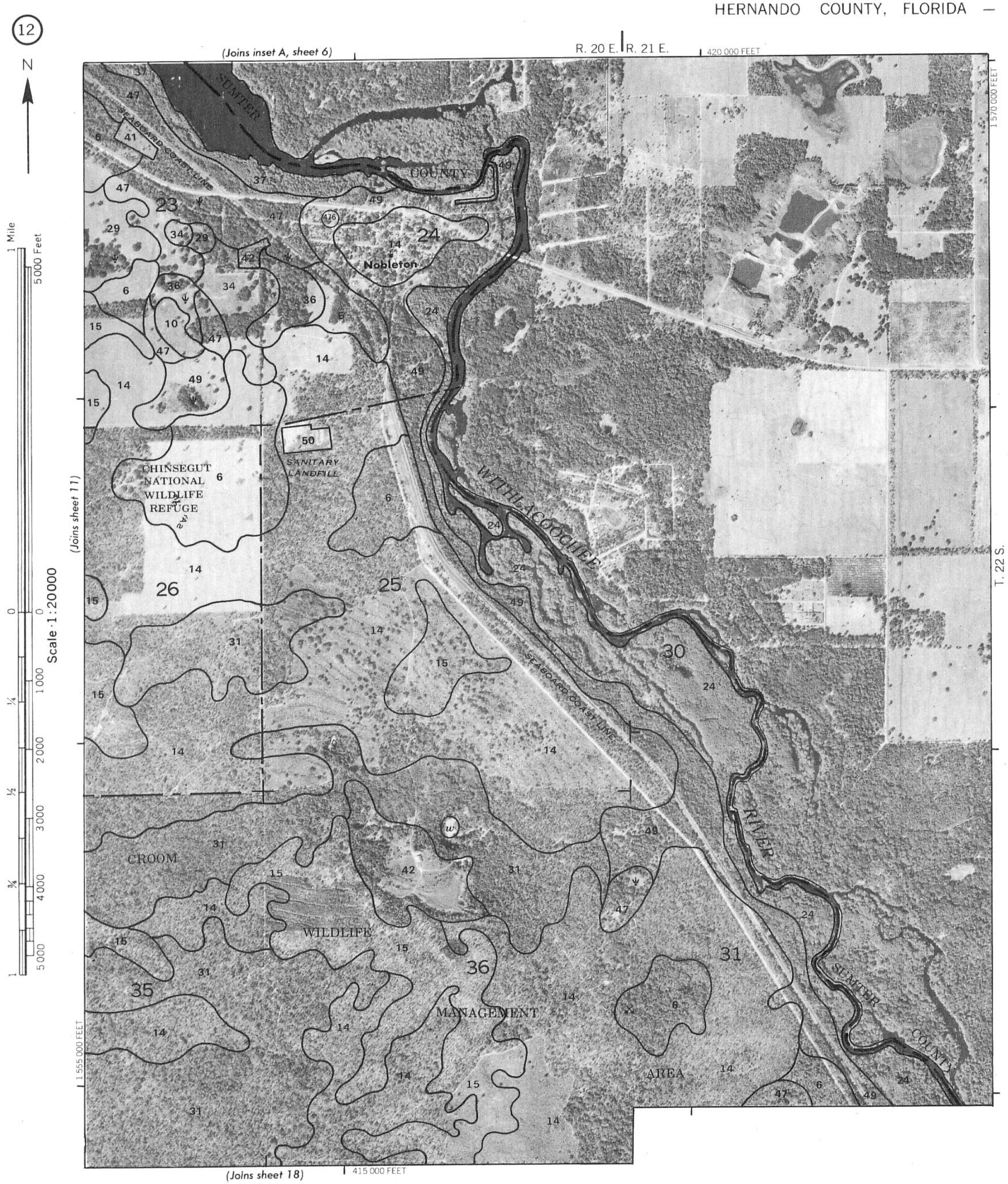

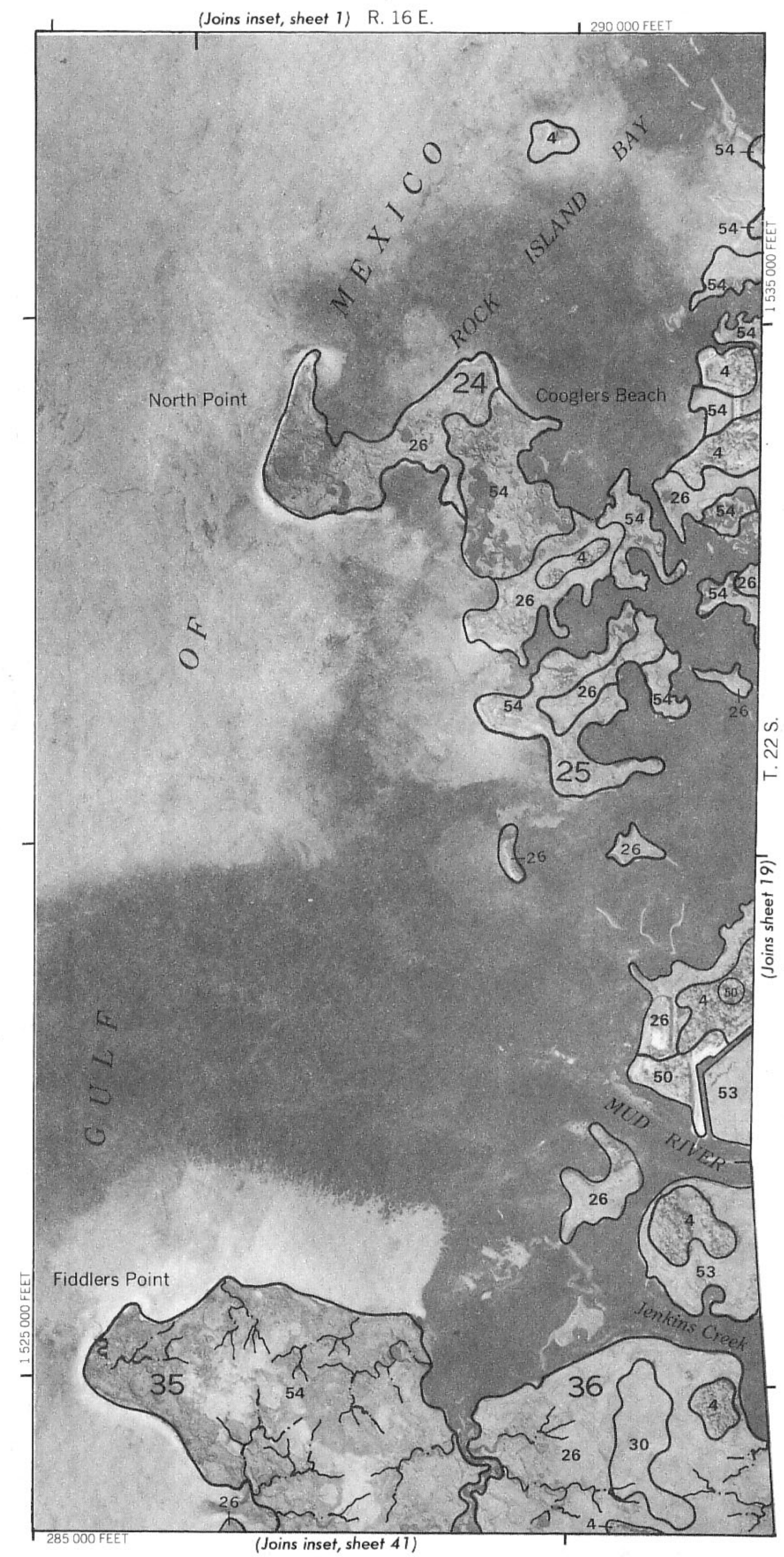

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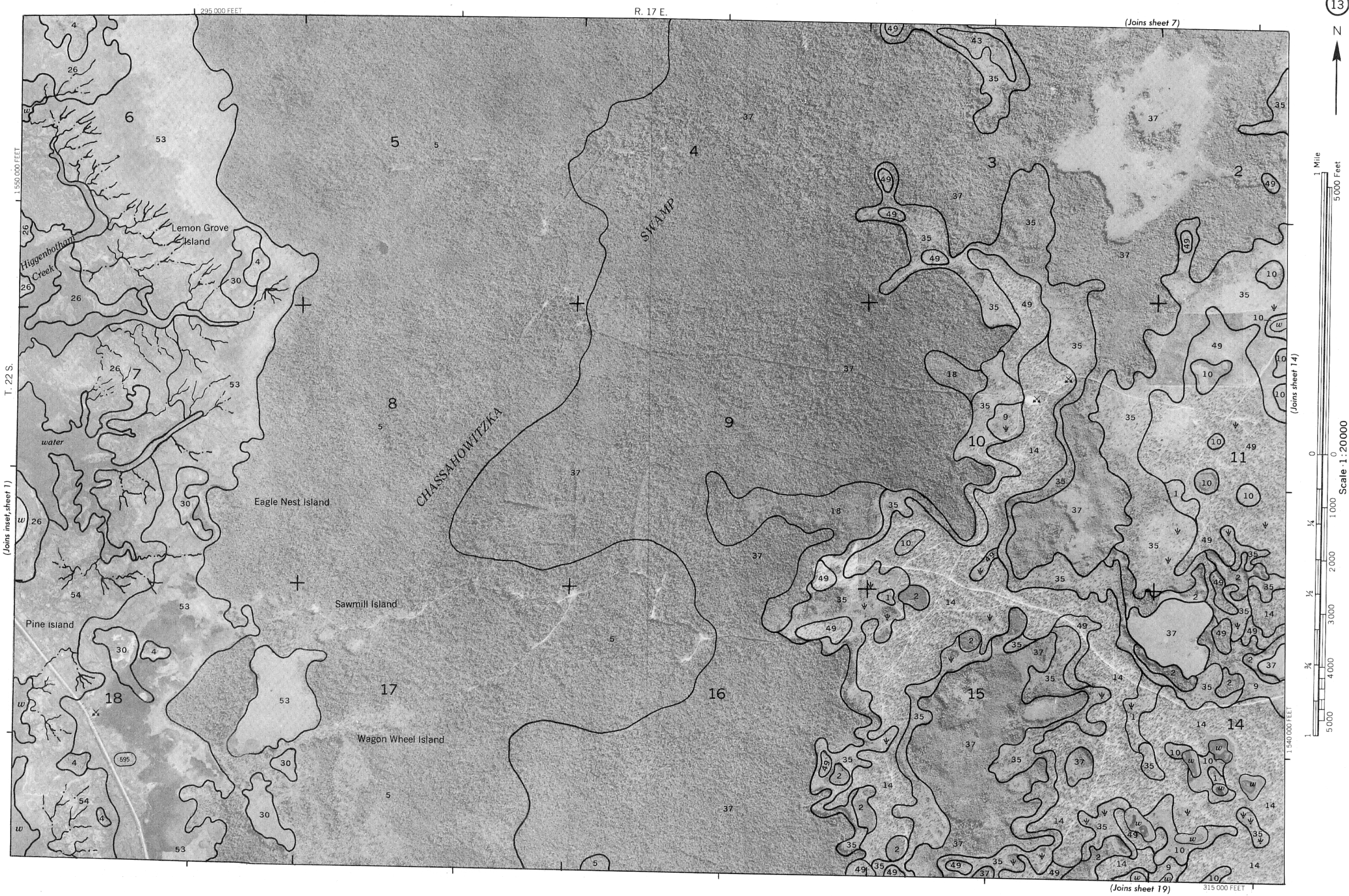
HERNANDO COUNTY, FLORIDA NO. 12



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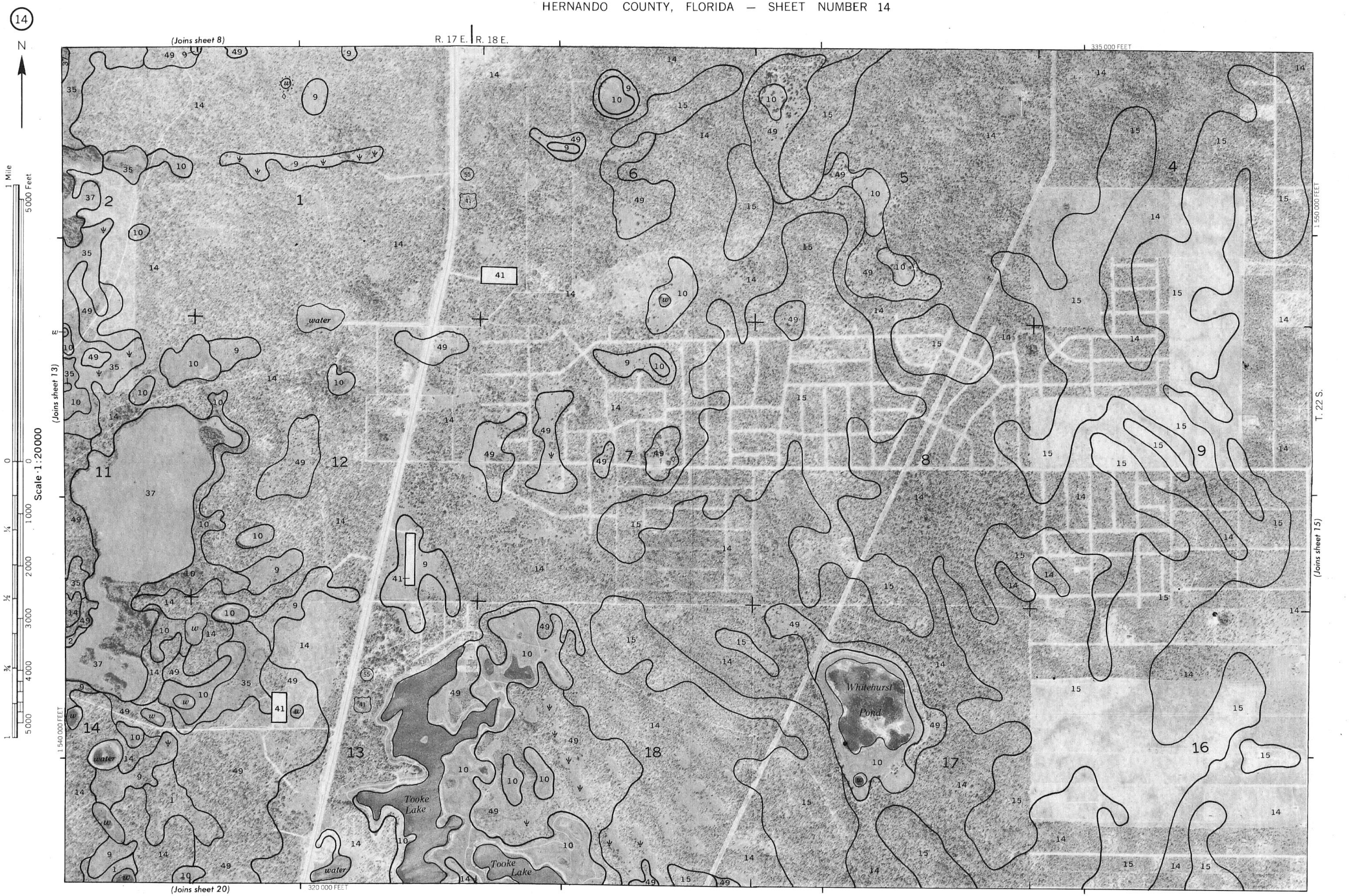

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HERNANDO COUNTY, FLORIDA NO. 14

15

HERNANDO COUNTY, FLORIDA NO. 15

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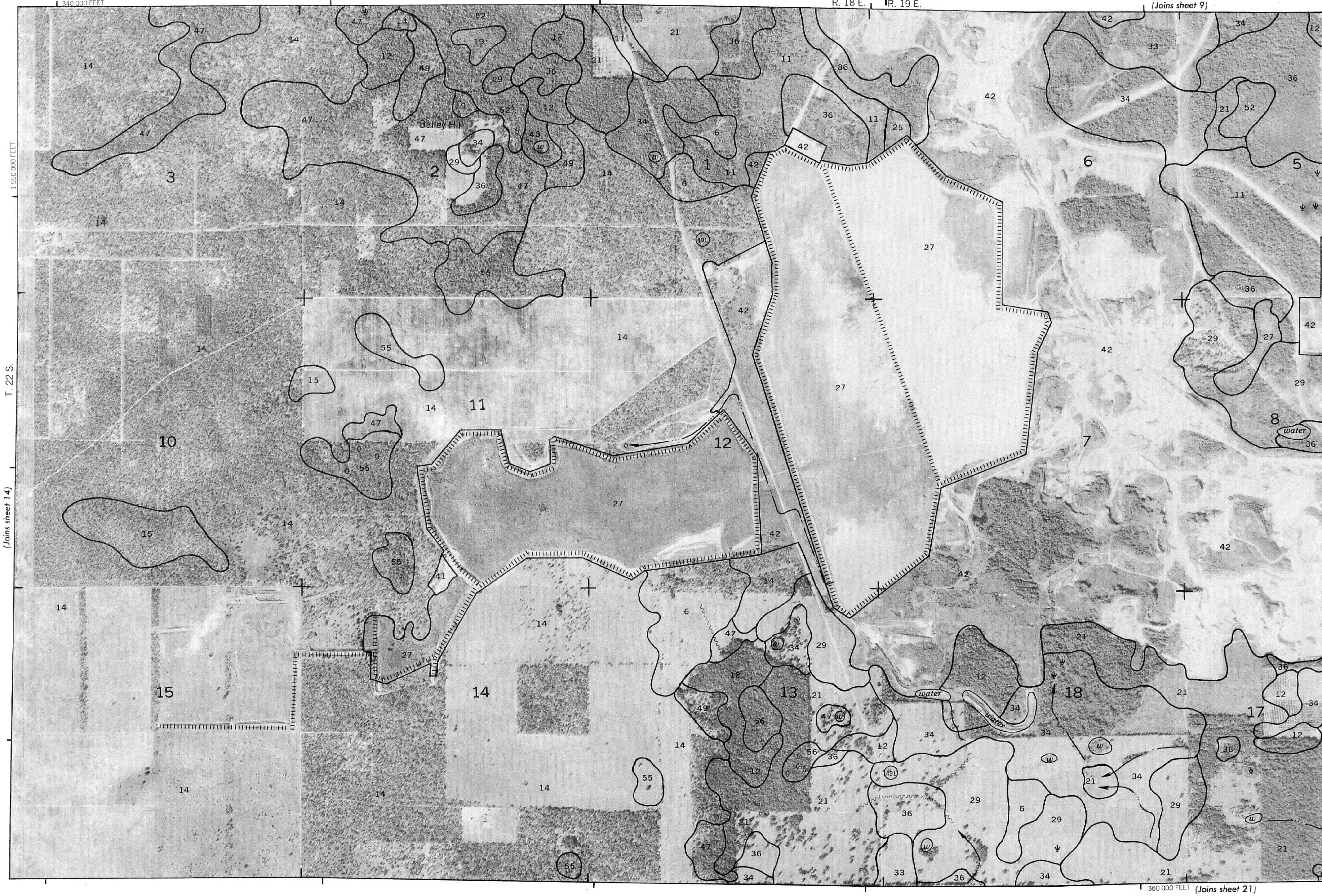
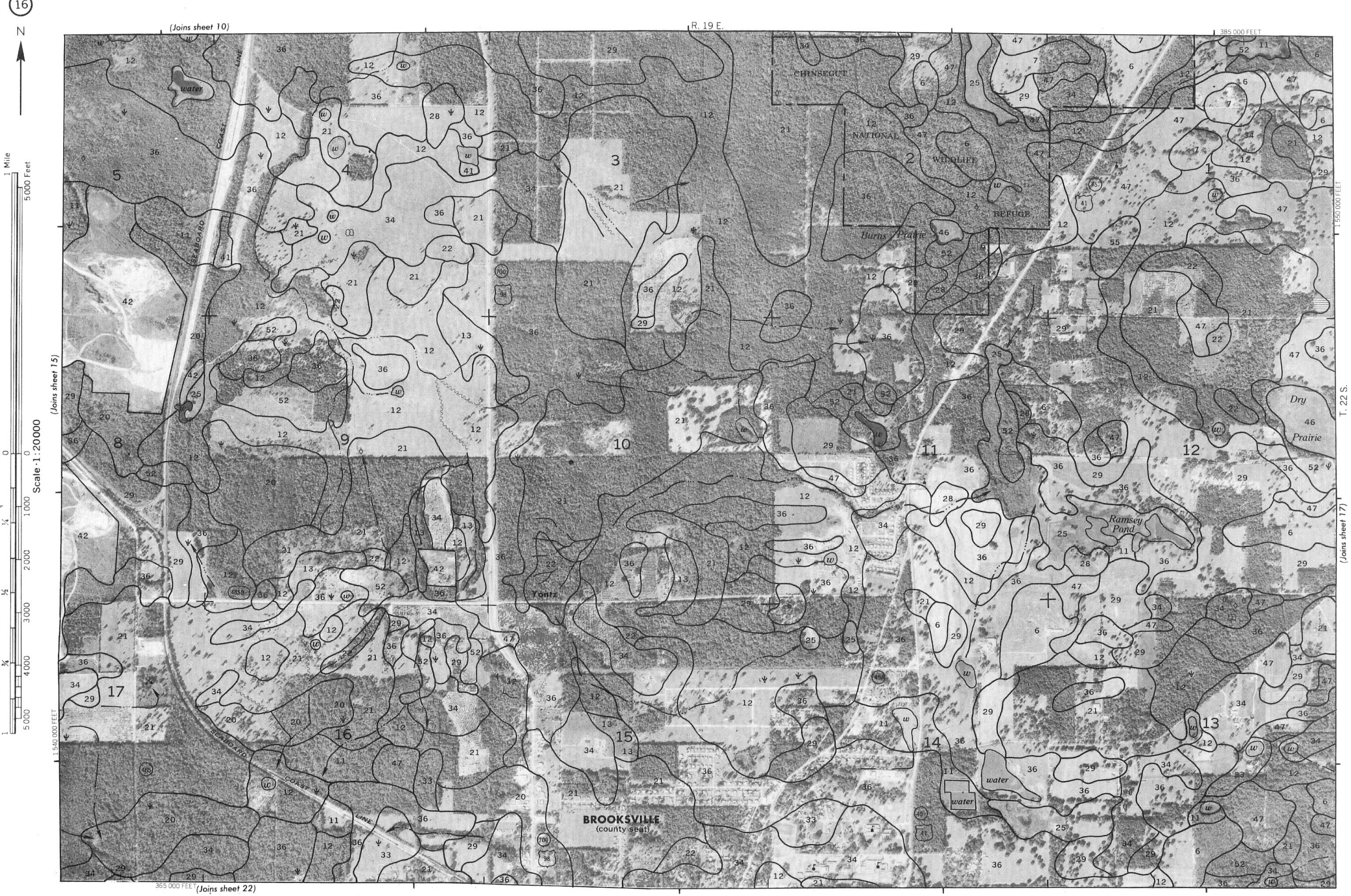


HERNANDO COUNTY, FLORIDA — SHEET NUMBER 16



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HERNANDO COUNTY, FLORIDA NO. 16

HERNANDO COUNTY, FLORIDA NO. 17

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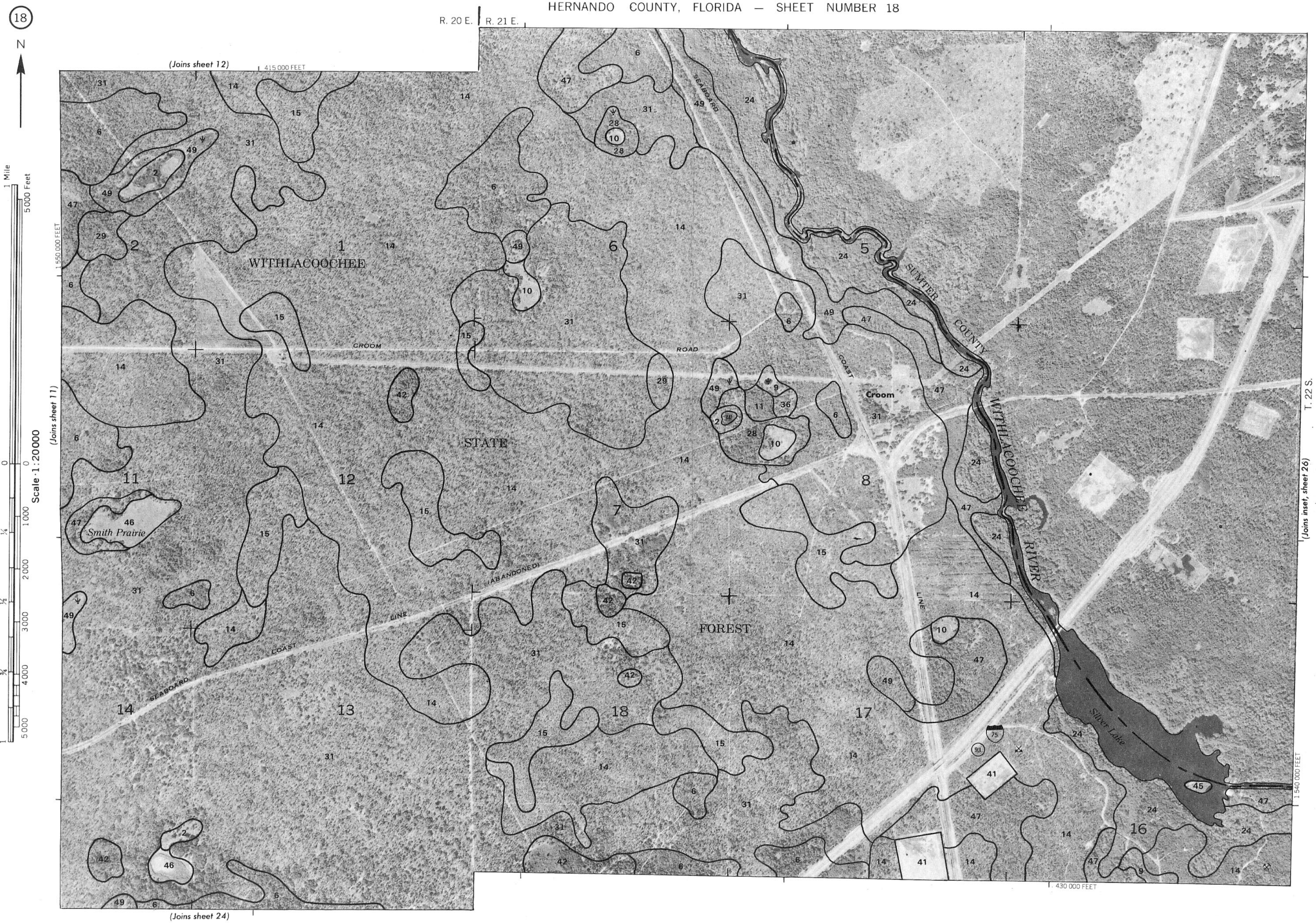

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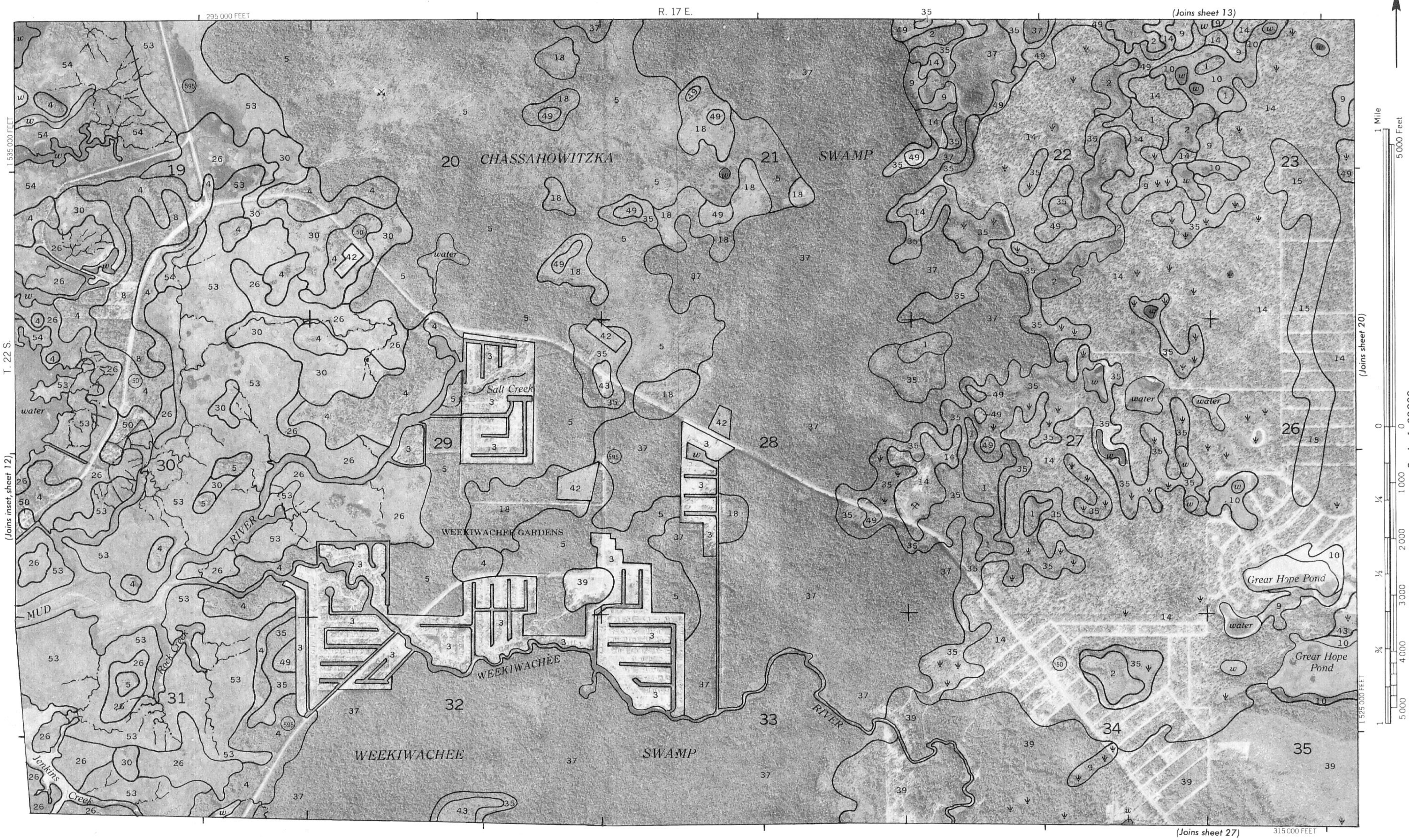
HERNANDO COUNTY, FLORIDA NO. 18



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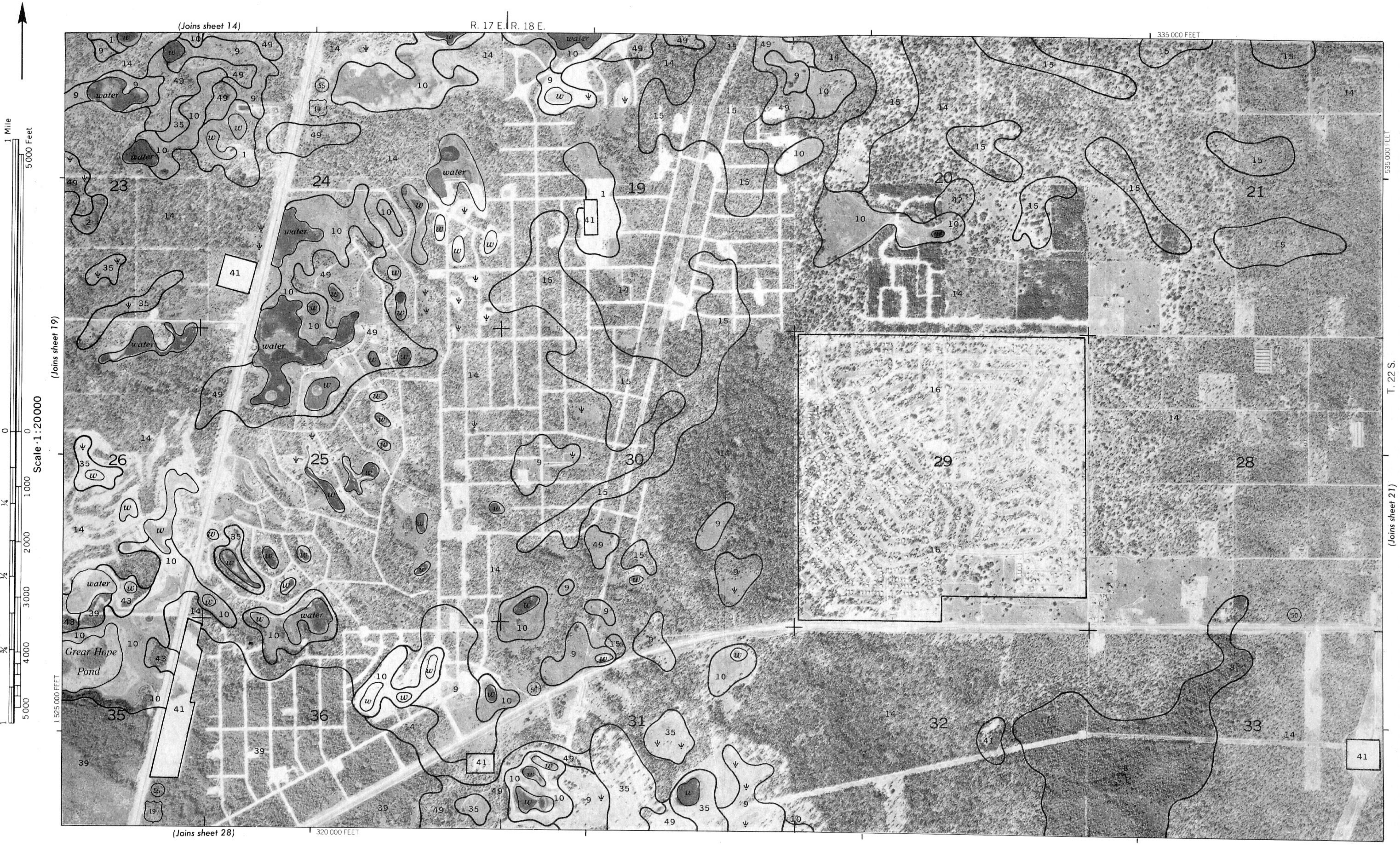

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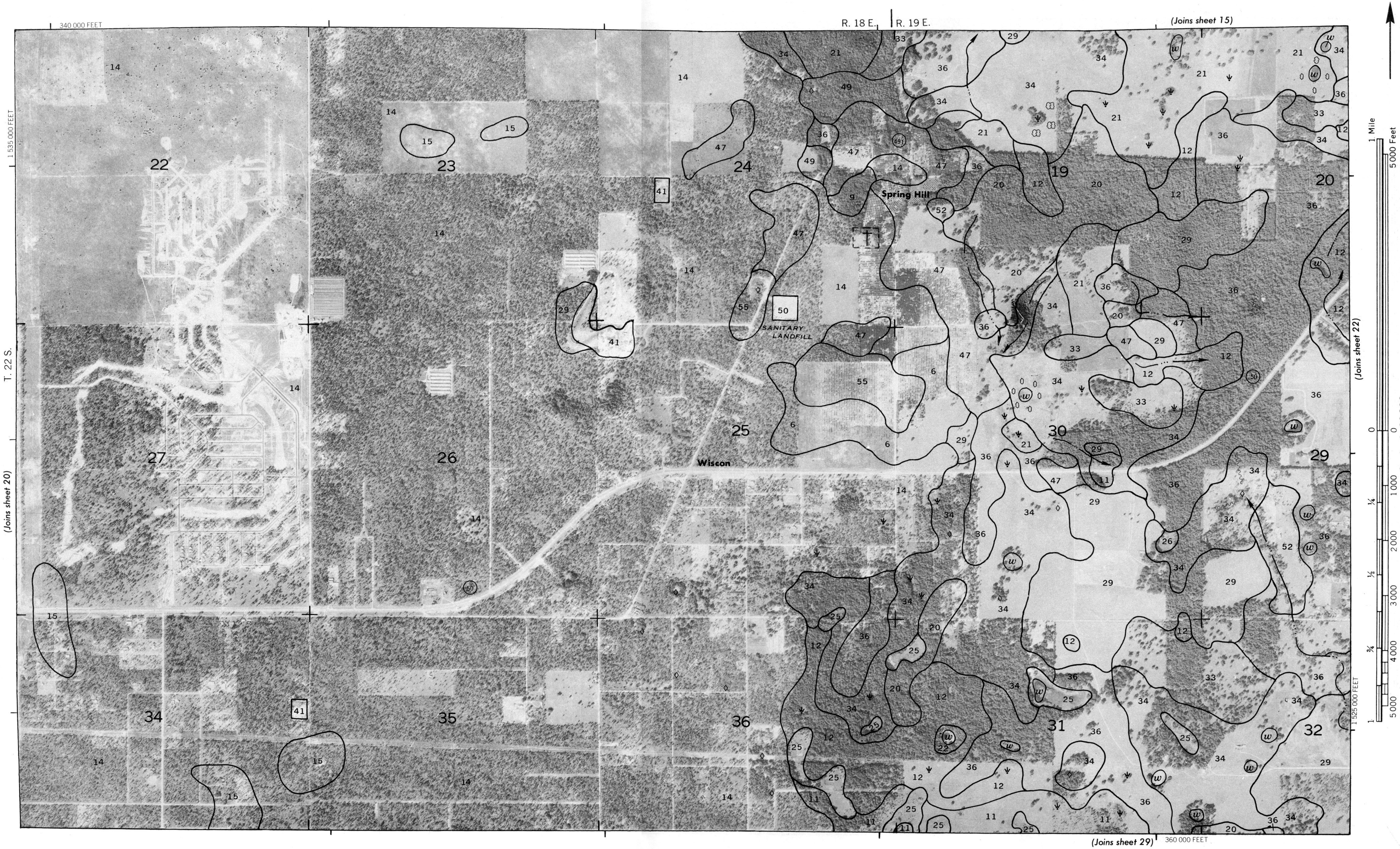
HERNANDO COUNTY, FLORIDA NO. 20



HERNANDO COUNTY, FLORIDA NO. 21

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Coordinate grid ticks and land division corners, if shown, are approximately positioned.

HERNANDO COUNTY, FLORIDA NO. 22

N

Scale 1:20000

1 Mile

5000 Feet

HERNANDO COUNTY, FLORIDA NO. 23

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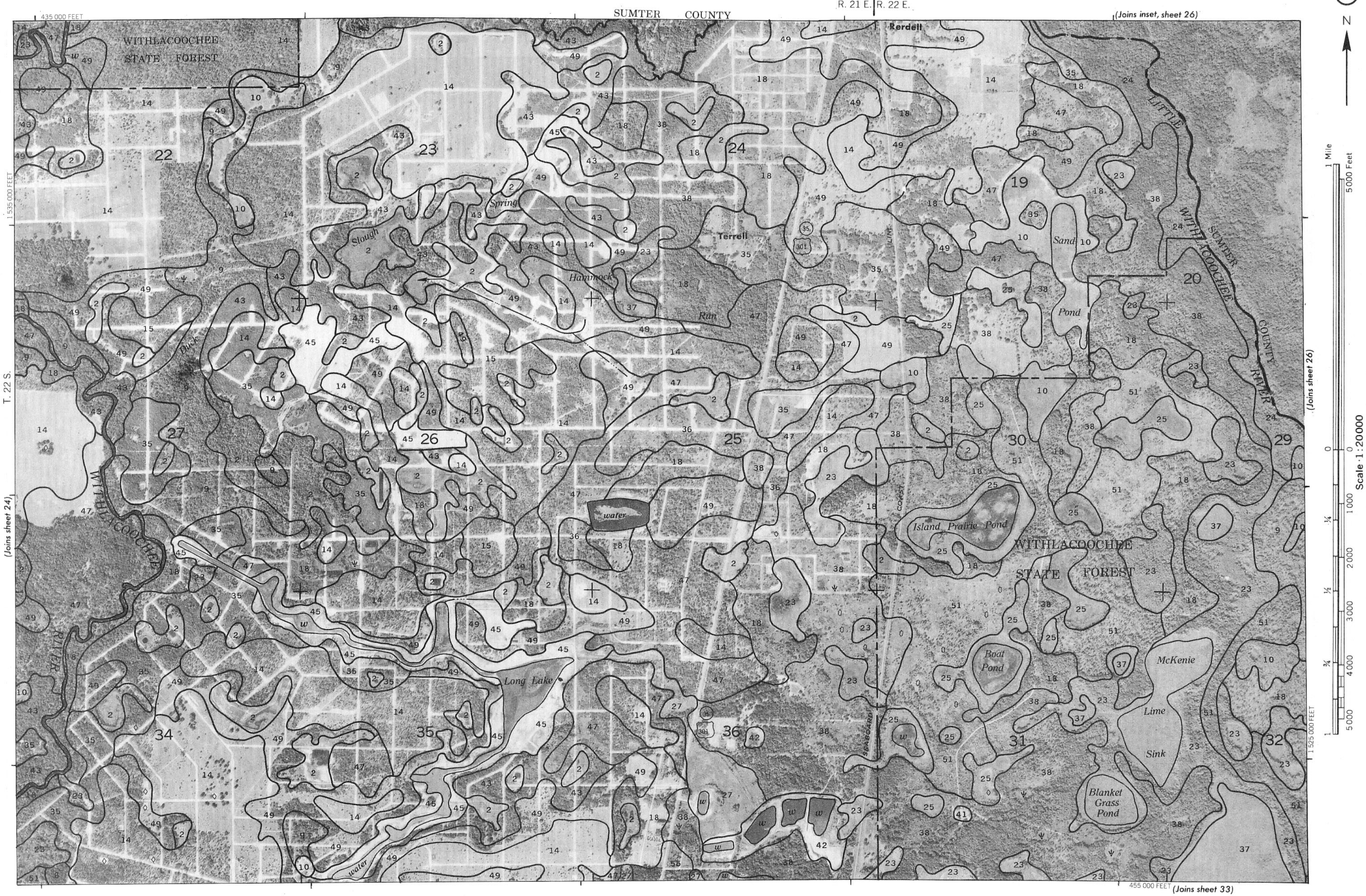
HERNANDO COUNTY, FLORIDA NO. 24

HERNANDO COUNTY, FLORIDA — SHEET NUMBER 25



HERNANDO COUNTY, FLORIDA NO. 25

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(25)

This map is compiled on 1973 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

HERNANDO COUNTY, FLORIDA NO. 26

HERNANDO COUNTY, FLORIDA NO. 27

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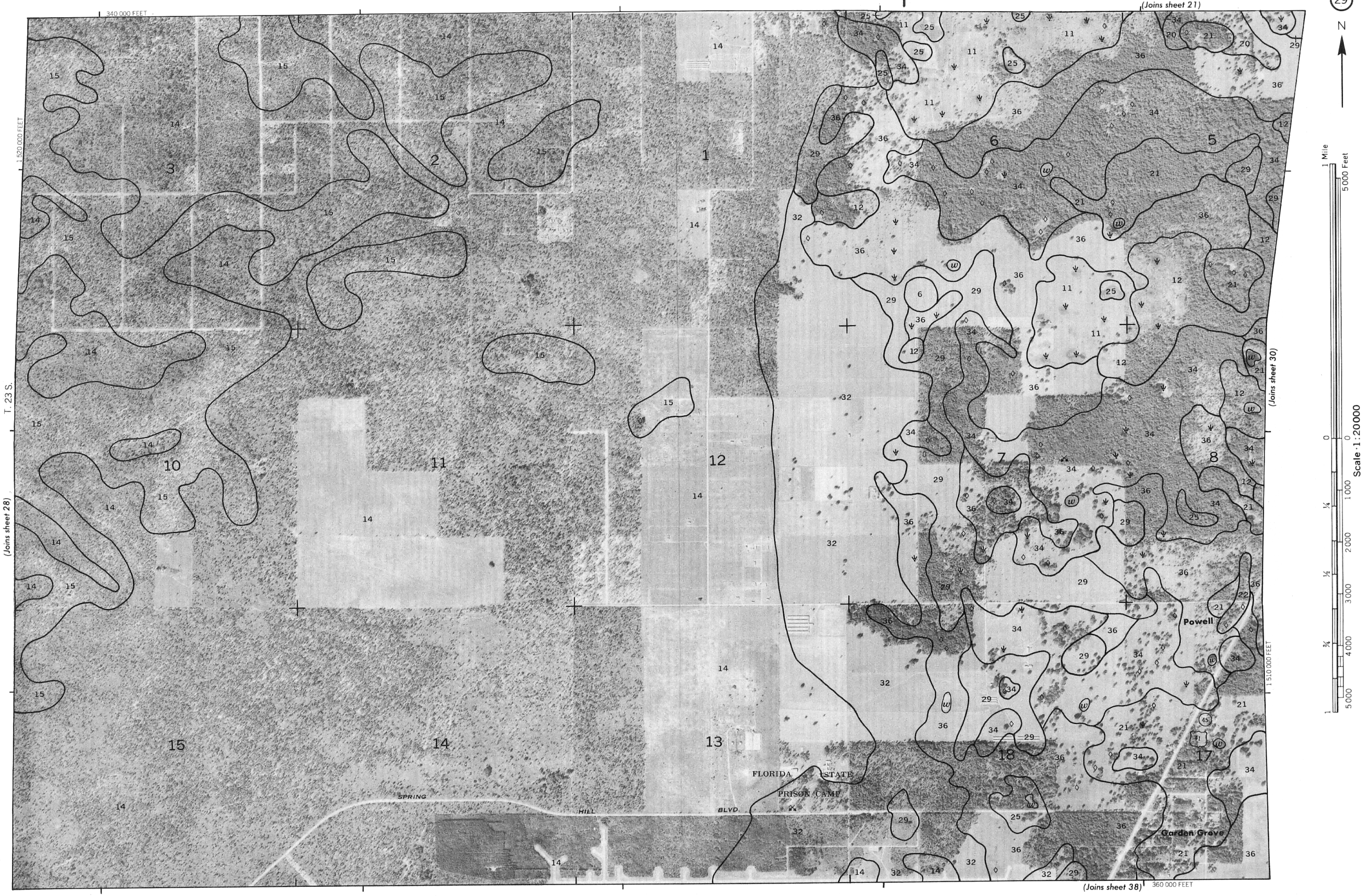
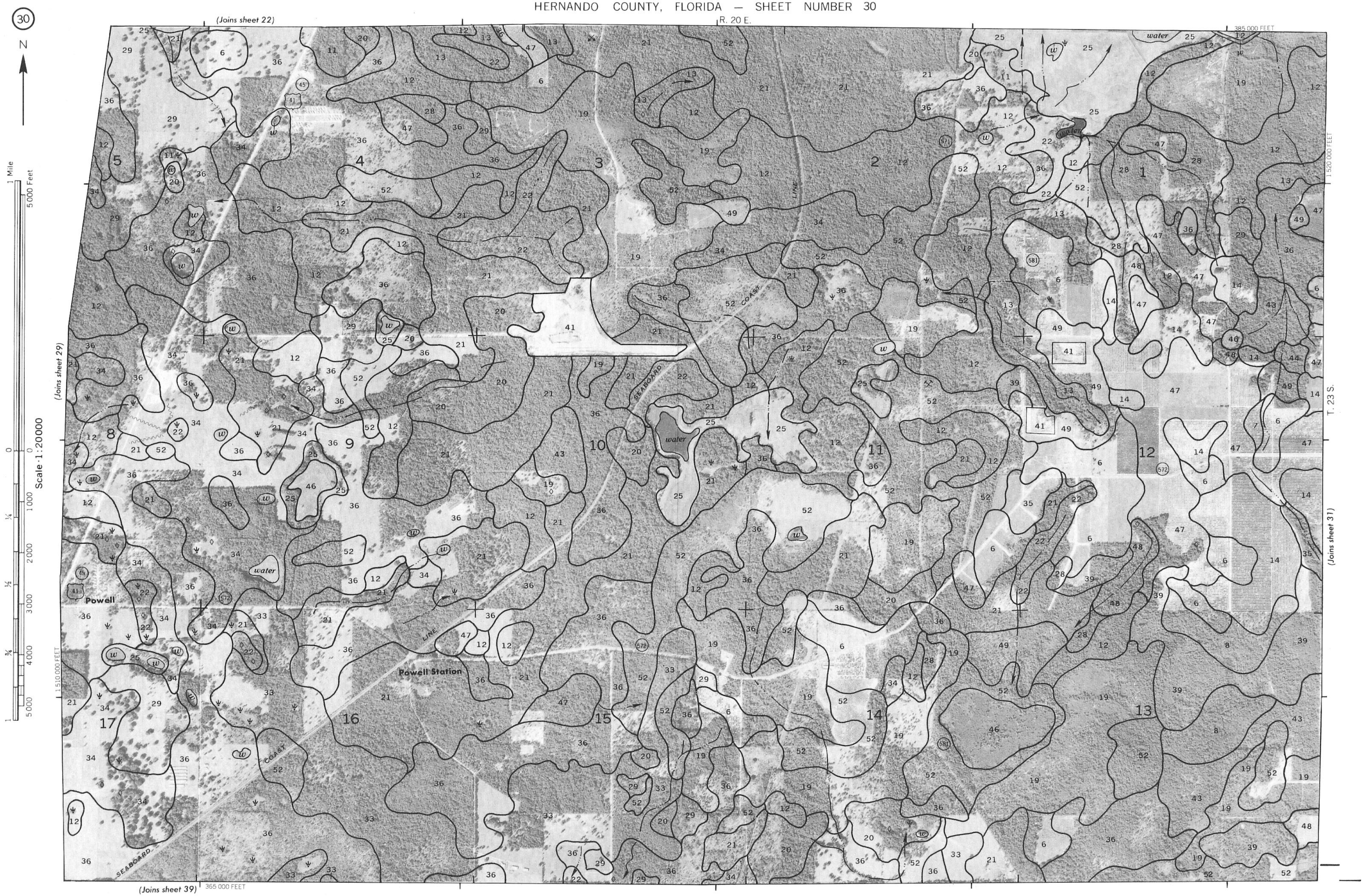


HERNANDO COUNTY, FLORIDA NO. 29

This map is compiled on 1973 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

HERNANDO COUNTY, FLORIDA — SHEET NUMBER 30



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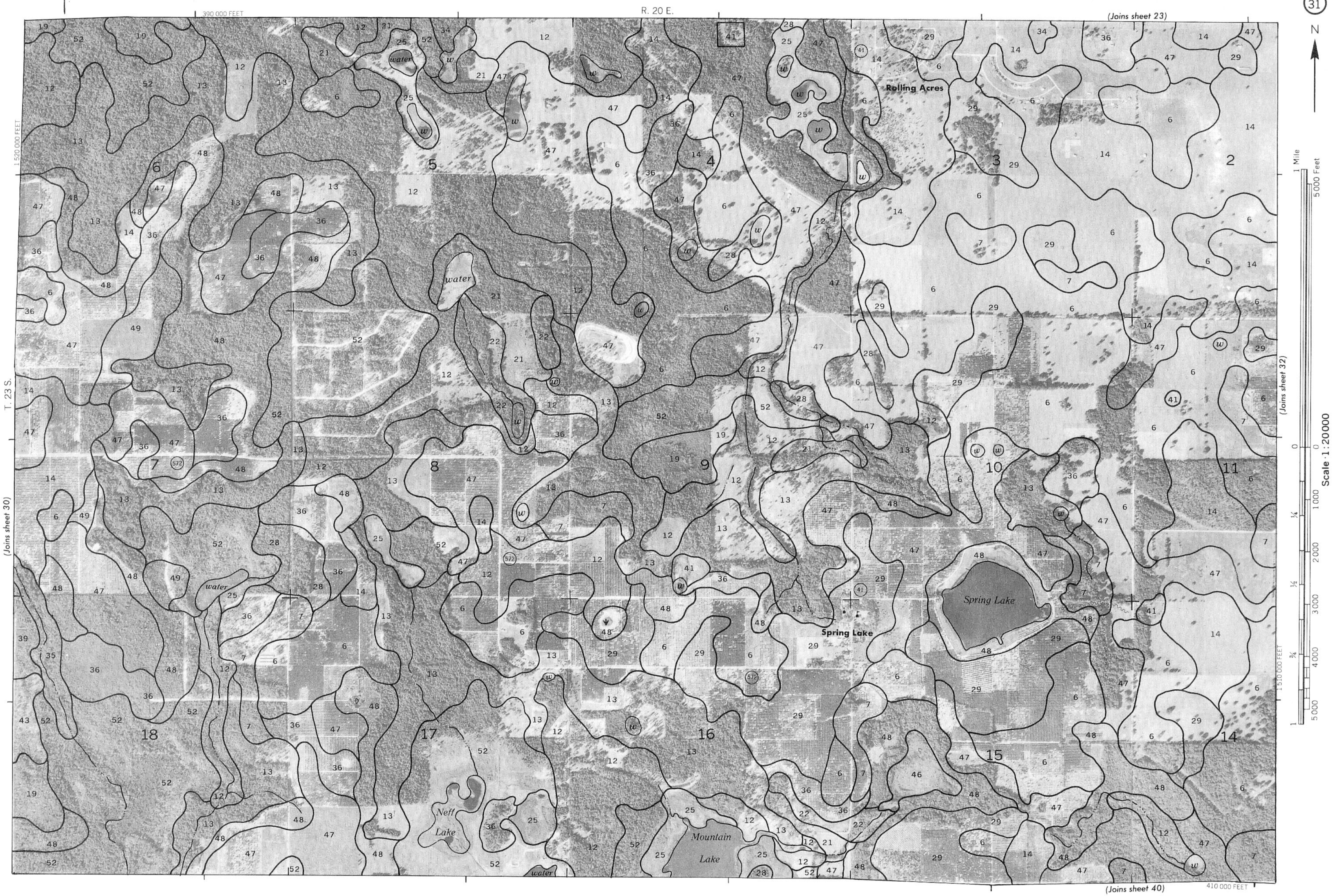
HERNANDO COUNTY, FLORIDA NO. 30



HERNANDO COUNTY, FLORIDA NO. 31

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HERNANDO COUNTY, FLORIDA NO. 32

33

1 Mile
5000 Feet
Scale 1:20000

HERNANDO COUNTY, FLORIDA NO. 33

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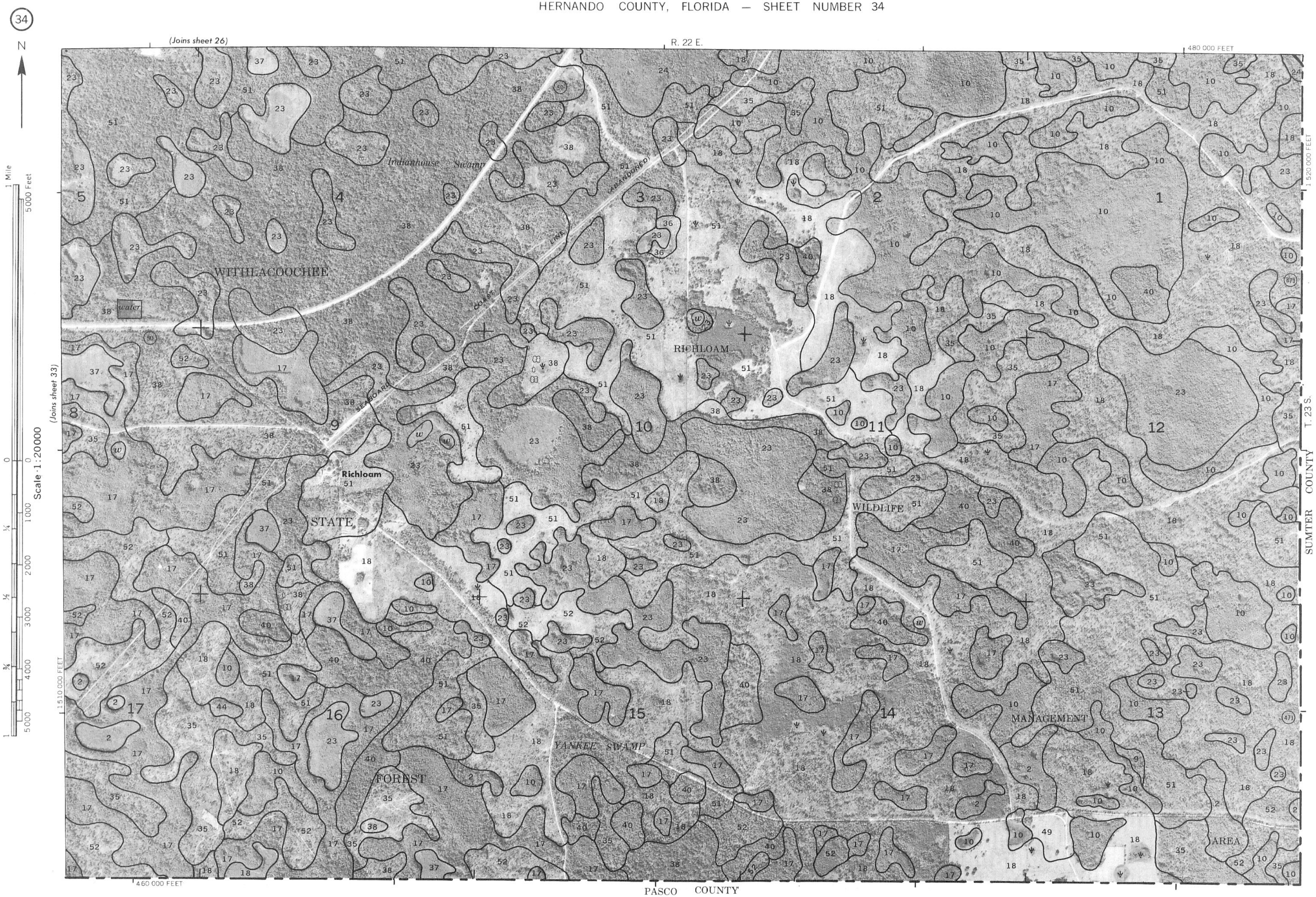

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HERNANDO COUNTY, FLORIDA NO. 34

HERNANDO COUNTY, FLORIDA NO. 35

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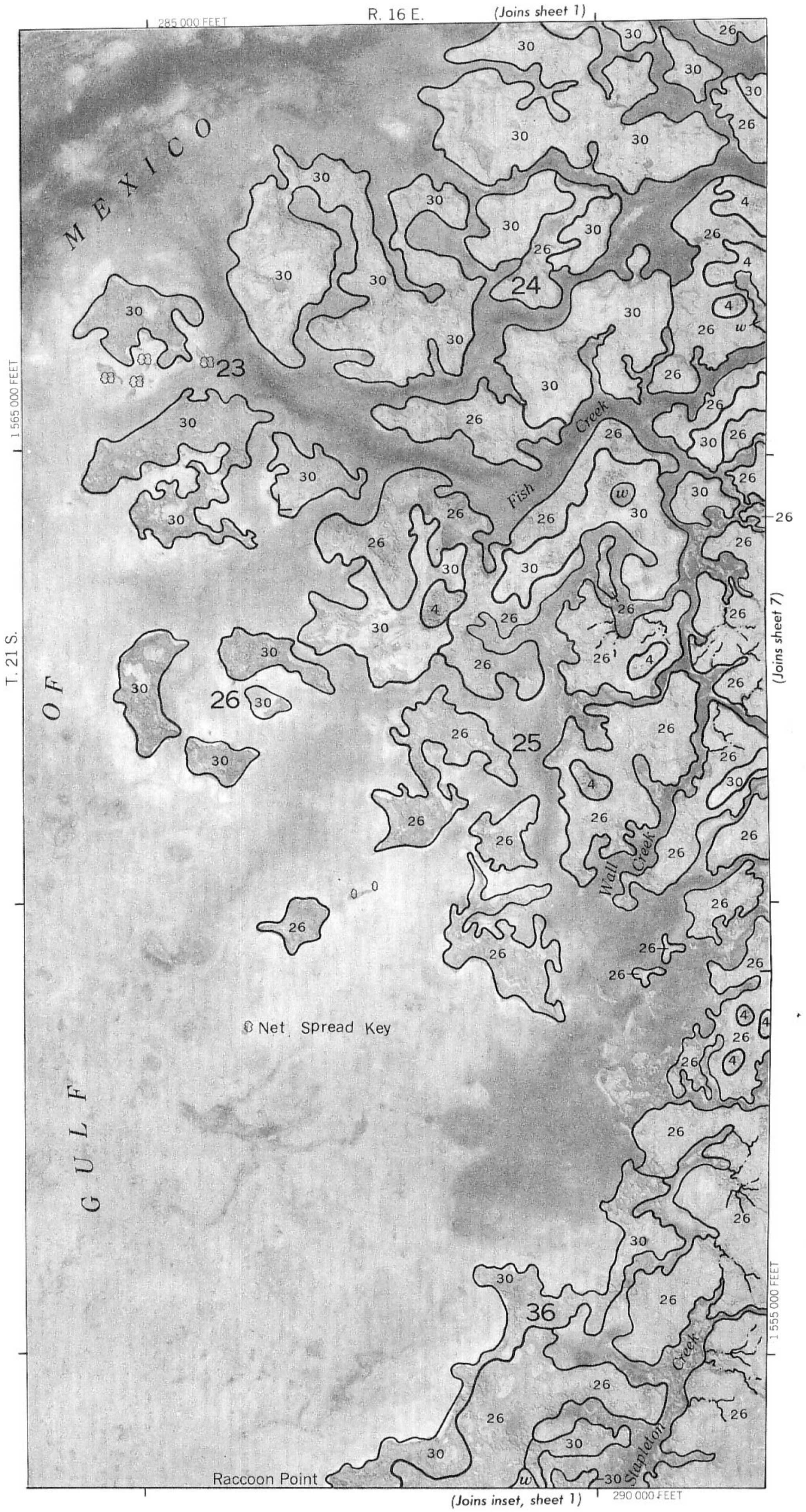

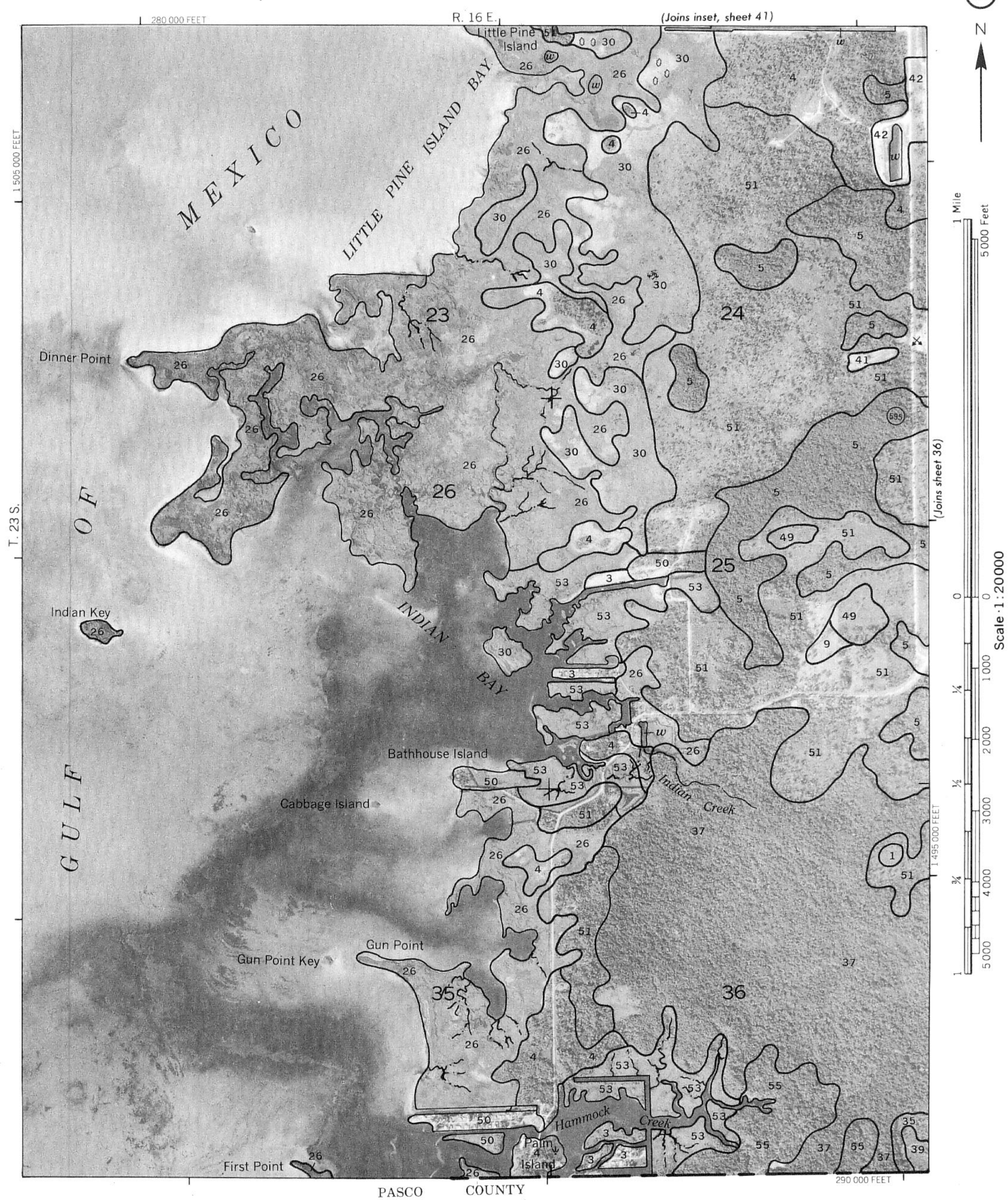

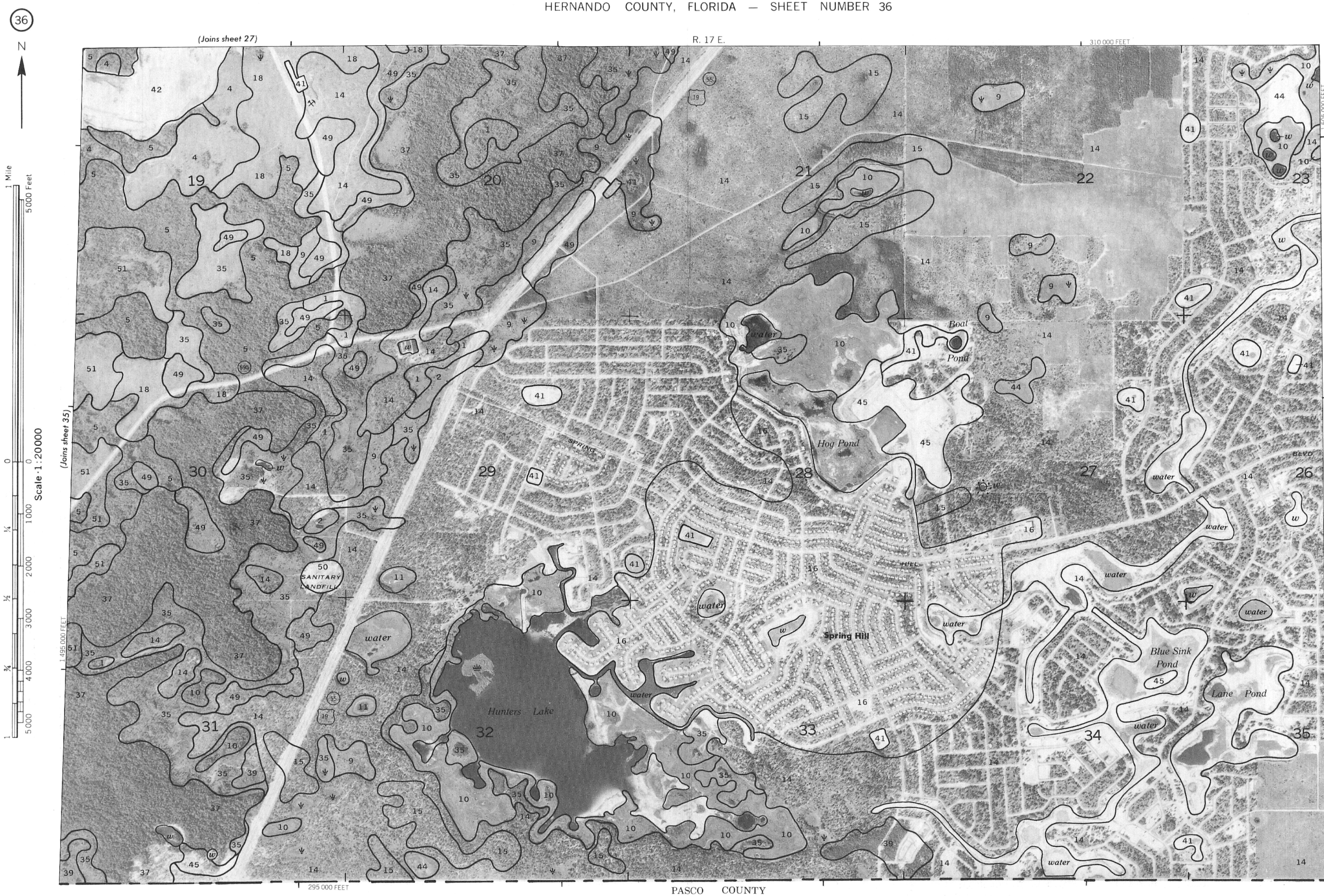

HERNANDO COUNTY, FLORIDA NO. 36

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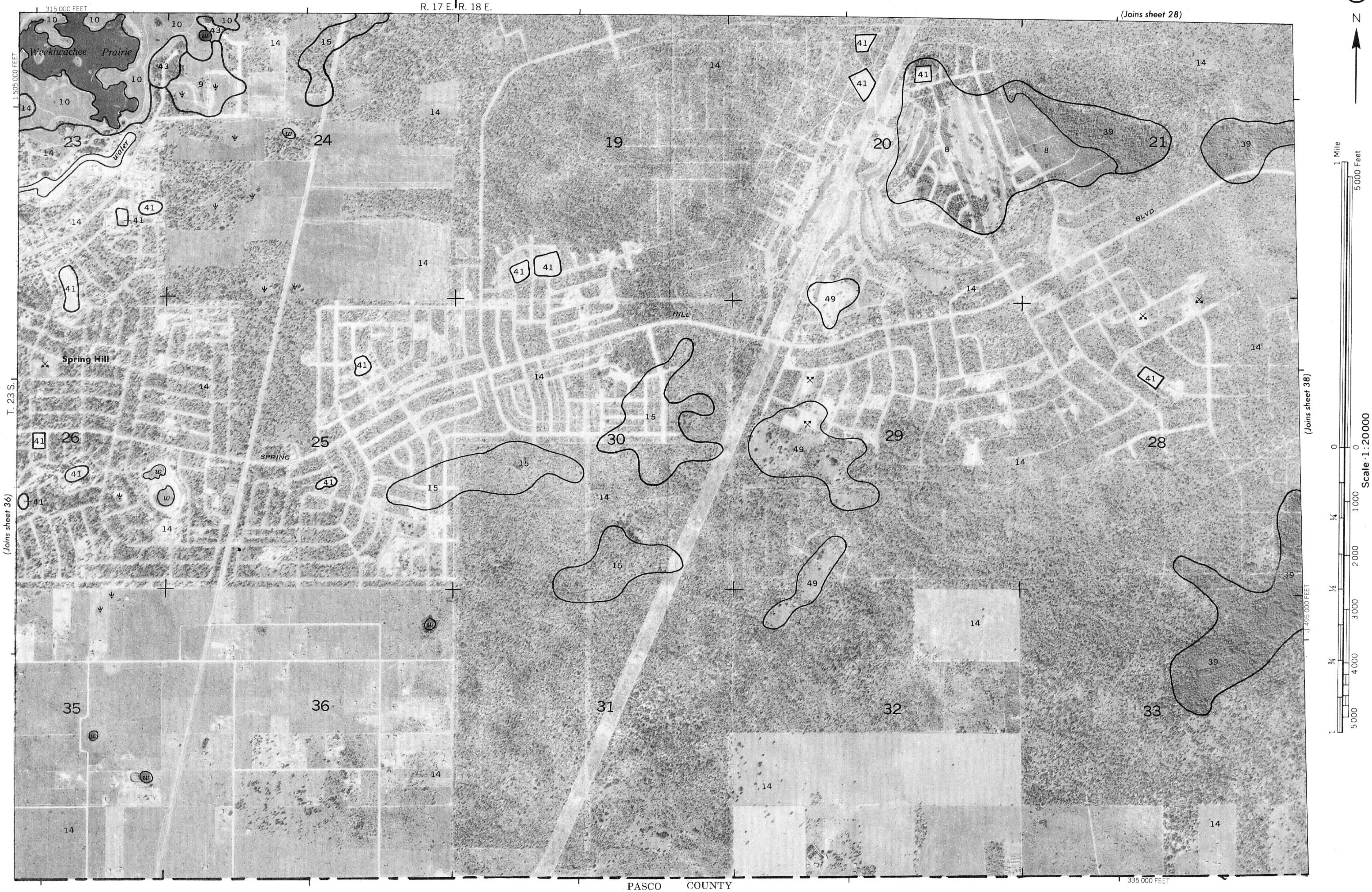

HERNANDO COUNTY, FLORIDA NO. 37

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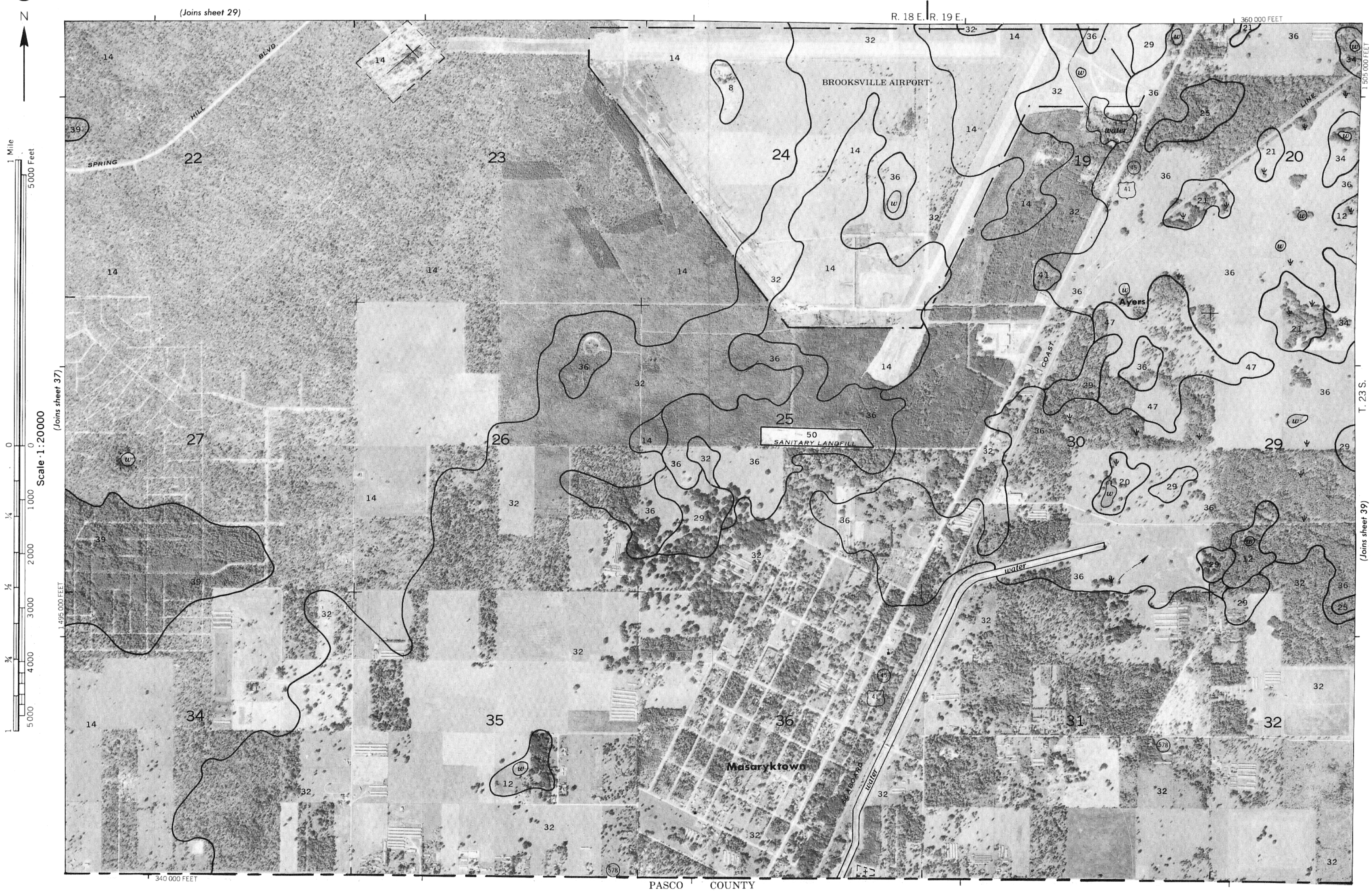

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HERNANDO COUNTY, FLORIDA NO. 39

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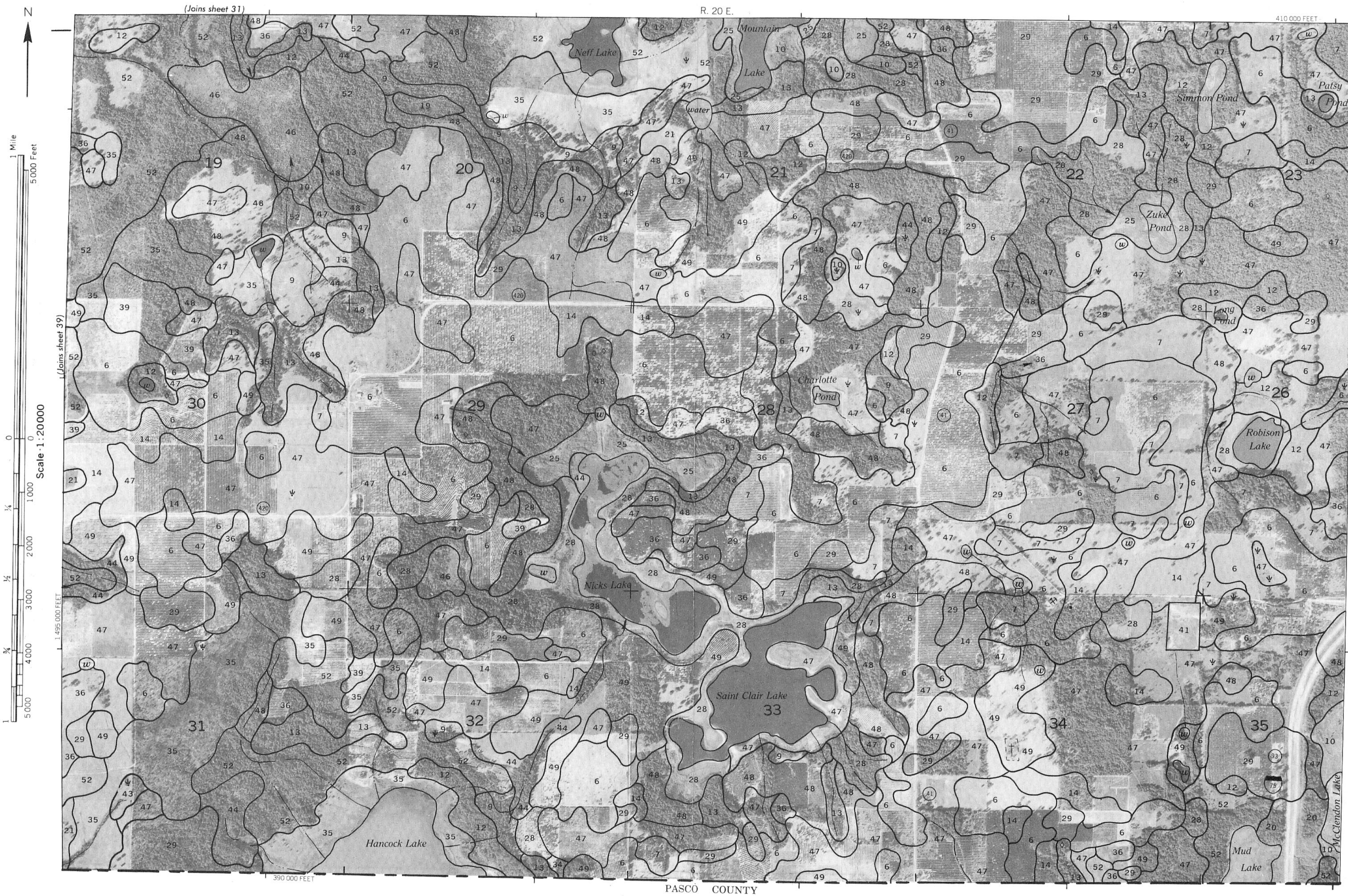
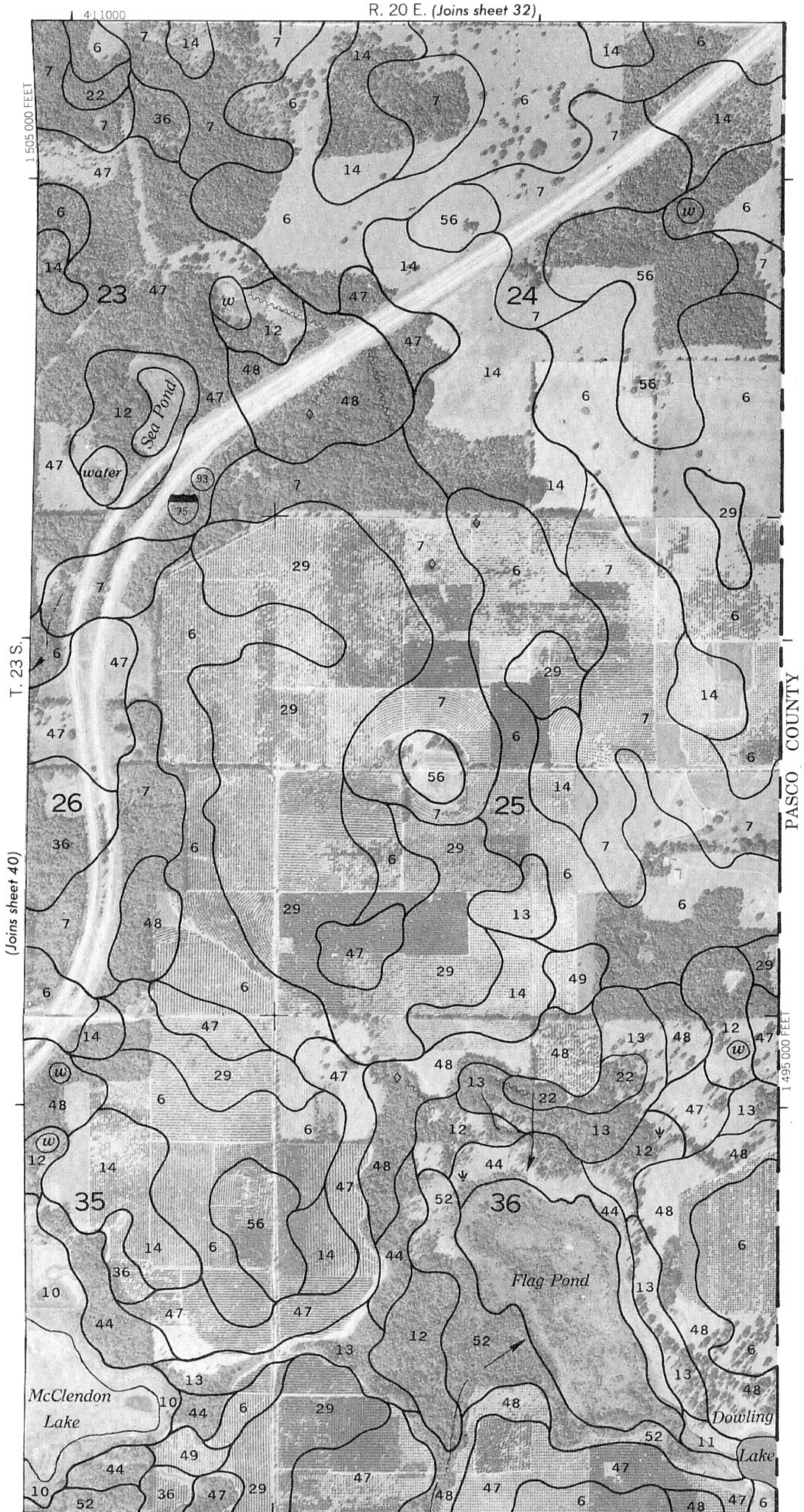


This map is compiled on 1973 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

HERNANDO COUNTY, FLORIDA NO. 40

41



N

1 Mile
5000 Feet
Scale 1:20000

HERNANDO COUNTY, FLORIDA NO. 41

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